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SOME BEADS FROM KONḌĀPŪR

BY

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with an Introduction by
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PREFACE

The present monograph on the beads from Kondāpūr attempts to classify in a handy form the important bead types recovered from the excavations at the Kotagudda Mound by the Archæological Department, Government of Hyderabad, in 1942. The large amount of bead-material found in these excavations is perhaps unequalled by any other single site in India, except Kosam in U.P. The large number of varieties and their commonness with beads found on several other Śātavāhana sites in the Deccan prompted me to undertake this classification.

Small objects like beads have received very scanty attention by archæologists in this country and their importance as a valuable aid for dating has often been overlooked. Scholars have even questioned the utility of such a study on account of the emergence of several bead-forms recurring at different centres at different periods and further because of the difficulty of a small object being placed in its proper archæological context. This may be true when the old methods of large scale operations in the field were in vogue when the archæologist employed a large number of labourers working under him; but the modern advanced methods of archæological digging, strata by strata, by a very good team of workers under very closely observed conditions have obviated the difficulties created by speculations or at least minimised them to a considerable extent. With the close study of objects emanating from different soil layers, it is possible now to date even small objects within a very close range of time by very faithful observation and scrutiny.

Experience at several Śātavāhana sites in the Deccan and knowledge of closely related objects through stratified excavations, suggested to me that it would be possible to study the bead-forms characteristic of the Śātavāhana age through several parallel types now known.

Within these limitations I have tried to set out a corpus of the bead-types at Kondāpūr, with as much similar material as I could get hold of from other sites and excavations in India.

I am highly obliged to Dr. P. Sreenivasachar, M.A., Ph.D. (London), Director of Archæology at Hyderabad, for his learned Introduction and several valuable suggestions regarding the chronology and the History of Kondāpūr. My grateful thanks are due to the Government of Hyderabad and in particular to Honourable B. Ramakrishna Rao, B.A., LL.B., formerly Minister for Education and Archæology and now Chief Minister of Hyderabad, without whose zeal and love of learning it would have been impossible to see the work printed in its present form. My sincere thanks are also due to Dr. S. M. Katre and Prof. H. D. Sankalia of the Deccan College Research Institute, Poona, for kindly permitting me to undertake this work when I was serving in that Institution, and for their encouragement while the work was in progress.

Tripuri Excavations
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Moreshwar G. Dikshit

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INTRODUCTION

Koṇḍāpūr was first referred to by H. Cousens,—in his Lists of Antiquarian Remains *V*-1-16. in H.H. the Nizam's Dominions published by the Archæological Survey of India in 1900. He describes it as "the site of an ancient town supposed to have been where the dried up lake now is, bricks, implements, and coins being found in the bed of the lake". But no one seems to have paid much attention to it: for it is not referred to by Bilgrami and Willmott in their famous work—Historical and Descriptive sketch of H.H. the Nizam's Dominions, published in 1884: nor is there a mention of this place in Mirza Mehdy Khan's book—Hyderabad State—included in the Provincial Series of the Imperial Gazetteer of India. The Archæological Department of the Hyderabad State started excavations at this site in A.D. 1940: and work of a couple of seasons in two or three areas has proved this to be a very promising site.

Location.—Koṇḍāpūr is situated (Lat. 17°-33', Long. 78°-1') in the Kalabgūr Taluka of the Medak District at a distance of 43 miles West-North-West of Hyderabad, a cart track branching off the main road a little beyond the 38th mile from Hyderabad. About 8 miles further the main road passes through Sangāreḍḍi, an important place and the headquarters of a Taluka.

Topography.—Koṇḍāpūr as well as Terpol—another village closeby—are conspicuous on account of several mounds, only one of which, about half a mile south of the village of Koṇḍāpūr, has been taken up for preliminary excavations. The mound is adjacent to a small stream feeding a small tank nearby.[1]

Mound.—The mound excavated is at an altitude of about 1788 feet above sea level and about 20 to 30 feet above the surrounding ground. The Western portion of this mound was 10 to 12 ft. higher than the Eastern part and was the first to be selected for excavations. The very limited excavations conducted so far have given convincing proof of the fact that Koṇḍāpūr must have been a very important Āndhra centre, perhaps one of the 30 forts of the Āndhras referred to by Megasthenes.

Buildings General.—Religious structures and private homes have both come to light revealing an architecture not very imposing and grand, nor even beautiful, but quite efficient and skilful, even if somewhat plain.

Construction.—Construction was mostly of brick and mortar—mortar of clay obtained from the beds of tanks, and bricks of various shapes and sizes, the dimensions ranging according to the size of the building. The bricks were made of coarse granular local soil which is decayed laterite with smooth sides. In the enclosure wall the size of the bricks is 22″ × 12″ × 2½″ and in small rooms 17″ × 8″ × 2½″ (sometimes 3″ thick). At corners of some houses are used square bricks (20″ square) which are 2½″ to 3″ in thickness. For a circular structure such as a *Stūpa* or the apsidal end of a *chaitya* wedge-shaped bricks were used.

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1. Dr. G. Yazdani surmises that the streamlet was dammed perhaps by the Kākatīya kings ("who were very fond of building tanks") for storing the waters in a reservoir: This is quite probable since the dykes at Pākhāl, Rāmappa and Lakhnāram are the achievements of the Kākatīyas and prove their great interest in irrigation.

Buildings.—Traces of a few buildings are seen from the limited excavations conducted so far : but the considerable damage done by vandals after the desertion of the site has rendered the task of reconstruction rather difficult, particularly in the Northern parts of the mound.

In the South-West are seen a *dagoba* with a few cells round it. The *dagoba* is a small one, about 19 feet in diameter, with a rubble core encased in brick. There are 6 cells in a row towards the North, one cell in the West and an uncertain number in the East, besides a passage, 5 ft. 2 inches wide, between the fourth and the fifth cell in the North. The cells in the North are square rooms 10 ft. ×10 ft. approximately. Traces of a narrow brick pavement in front of the cells might be a sort of stylobate or possibly the floor of a verandah constructed in wood that is now completely perished.

The alignment of the cells in the East is irregular : and since these cells are not at right angles to the row of six cells in the North and since, further, there is only one cell in the West, it is doubtful whether the whole structure is really a *vihāra* as conjectured by some scholars with cells all round and a *dagoba* in the centre.[1]

The two small *Chaitya* halls to the South of these remind one of the general plan of Monastery II situated on the Northern end (Plate V*d*) of Nāharāllabōḍu Hill in Nāgārjunakoṇḍa, with two small *Chaitya* halls on either side of the entrance to the square courtyard of the monastery with cells all round the courtyard. But the similarity is not so apparent in plan and structure. The *Chaityas* have the usual apsidal ends with the rubble foundations of a *dagoba* still traceable in one of them.[2]

The Western end of the mound shows a Stūpa 15 ft. in diameter in the middle of a courtyard paved with brick and concrete, and traces of some cells and a small *Chaitya* Hall. The *Stūpa* has a projection towards the South, obviously a landing for steps.

Underground chambers.—There are six underground chambers (three of them double chambers with a partition wall in the centre) ranging in depth from 5 ft. to 25 ft. These are built of neat courses of brick laid in mud : the floor is paved with bricks laid flat or with small stones fixed evenly to the ground. Since these chambers contained comparatively valuable articles like coins with their moulds, seals, terra-cotta figurines, beads, ornaments of gold and other materials it may be presumed that these are depositories or underground chambers for safe custody of valuables.[3]

The discovery of 2 furnaces has led to considerable speculation as to the nature of a few structures nearby : and it has been suggested that there was an industrial area with metallurgists' shops etc. While the discovery of coins and their moulds is a sufficient explanation for the presence of these furnaces there is very little to

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1. It is a matter still open to enquiry whether the typical *vihāra* with cells all round a central hall or courtyard, square or oblong with or without a *dagoba* or shrine room at one end is an early form of Buddhist architecture ; and whether the word *vihāra* in itself is of sufficiently great antiquity to be applied to these structures.

2. There is one special feature which defeats an attempt to reconstruct a coherent plan in these structures. The foundations of the walls of these *Chaityas* overlap ; and "it appears that one of them, probably that on the Eastern side was built after the other."

3. In Deccan and South India underground cells for storing valuables and grain is a common feature and may be still seen in almost every house in rural parts. They are generally called *pāṭara* or *kanamu* in Telugu. In Koṇḍāpūr these were first mistaken for wells and soak-pits for refuse.

suggest that the traces of the paved rectangular rooms with brick foundations and with floor paved with brick bats or rubble are " metallurgists' shops. "[1] Similar uncertainty exists in reconstructing the form of the superstructure in these buildings and in assuming that the tiles discovered had been used in covering the roofs of these buildings.

A broken piece of vertical pillar of limestone with a design of half lotus led to speculation whether this is an *ūrdhvapaṭa* of a railing round a *stūpa* similar to the the railings round *stūpas* at Amarāvati and Nāgārjunakoṇḍa. But the inadequacy of the material found and the difference in the type of structures brought to light (especially the *Stūpas*) preclude any definite conclusion on this point.

Coins.—A gold coin of the Roman pontiff Augustus,[2] (37 B.C.—14 A.D.), about a dozen silver coins, 50 copper and 100 potin coins and a large number of lead coins, totalling 1835, suggest a comparatively late date for this place among the Āndhra antiquities and confirms the evidence of other finds that no date before Christ can possibly be suggested. The moulds of coins, some of them identified as " moulds of punch—marked coins " are interesting.[3] Some of these coins are identified tentatively as those of Gautamīputra Śātakarni, Pulumāyi and Yajña Śrī Śātakarni.

A few, including one with a lion on it have been assigned to the Mahiṣa dynasty, and in particular to a person called Māna, a Ṣaka king. One unique coin-an oval piece with the device of an elephant with its trunk hangingdown has—been attributed to king Śātavāhana, founder of the Śātavāhana dynasty. "

Date of early coins.—Dr. Rama Rao states as follows: " The characters of the legend resemble very closely those of the earliest known inscriptions of the Śātavāhana family and may be assigned to the third quarter of the third century B.C. Since the first king of the family, hitherto known, has the title Śātavāhana and since his successor mentions Śātavāhana as the name of his family it may be concluded that this king Śātavāhana was the founder and first member of the celebrated Śātavāhana dynasty. I assign him to 235-220 B.C."[4] Arguing in the same strain but with less emphasis Prof. V.V. Mirashi states " The legend on the present coin has not come out in full as its blank was smaller than the die..... ....The characters are like those on the copper coins, though not so neatly shaped. The upper portions of *sa*, *da* and *va* have not come out on the coin. *d* faces left : *v* has a round lower limb : the vertical of *h* is shortened, but its right limb is still horizontal. These characters leave no doubt that the coin belongs to about the same age as the Nanaghāt inscriptions. Śātavāhana, who issued it, must therefore be identified with the founder of the so-called Āndhra dynasty, as shown in my previous article on the copper coin".[5]

While a detailed discussion can only be possible in a separate article it is necessary to refer to the main difficulties in accepting the date of third century B.C. to this coin

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1. It may be noted that no help can be derived from the evidence of strata in these excavations ; and it is not even certain whether the furnaces are as early as the other structures here.

2. Roman gold coins belonging to about the first century A.D. have been found in Kathiawar District.

3. There is no basis however to "presume that during the Āndhra period these moulds were made from the original coins and that they were used for casting coins." Nor is it so "obvious that the Āndhras used imitations of punch-marked coins for their silver currency." It is needless to add that no one can seriously suggest 1,000 B.C as the date for these punch-marked coins.

4. Numismatic Series, No. 2 : A New Coin of king Śādavhāana from Koṇḍāpūr by Dr. M. Rama Rao.

5. Numismatic Series, No. 4 : A lead coin of Śātavāhana by Prof. V.V. Mirashi.

and, by implication, to the antiquities of Koṇḍāpūr. Prof. Mirashi himself seems to anticipate one difficulty when he "raises the question whether the Ujjain symbol really originated in Ujjain." Even if we do not accept Rapson's suggestion that its use on the coins of this dynasty signified the conquest of Ujjain by Śātakarṇi who thereafter performed an *asvamedha* it is by no means granted that "the symbol occurs on the coins of Śātavāhana who preceded Śātakarṇi by at least three generations," nor even "that the symbol was current in the Deccan long before the time of Śātakarṇi." The Ujjain symbol will have to be explained in a much more convincing manner before this coin can be assigned to the 2nd century B.C., or even earlier.

The second difficulty is the date of the Nānāghāt inscriptions, which is not above controversy. Palaeography is too flexible a basis when not reinforced by the concrete support of dates or other data: and at least one noted epigraphist has argued that the characters of all the early records of the Āndhra Śātavāhanas (referring to Simuka and his immediate successors Kṛṣṇa and Śātakarṇi) found at Nānāghāt, Nāsik, Sānchi and Hāthigumpha "are more developed and therefore later than those of the Bēsnagar epigraph of Heliodorus which cannot be much earlier than the end of the second century B.C." The chronology of the Śātavāhanas is a vexed problem with few definite landmarks; and the latest pronouncement on it has it that "the overthrow of the Kaṇva king Suvarman by the Āndhra (Śātavāhana) Simuka may be assigned to a date 137 + 112 + 45 = 294 years after c. 324 B.C. i.e., about 330 B.C. Simuka, who reigned for twenty-three years according to the Purānas, may be supposed to have ruled about the third quarter of the first century B.C., and to have extirpated the Kanvas about the close of his career. This date is supported by the palaeography of the Nānāghāt, Nāsik, Sānchi and Hāthigumpha inscriptions.. . . . . "

In view of these considerations, even if we grant hypothetically that this coin is that of an early Śātavāhana ruler it does not follow that its date is as early as the 2nd or the 3rd century B.C. Reserving comment till after a closer scrutiny of these coins it might be stated here that numismatic evidence affords no reliable basis for assigning a date before Christ to Koṇḍāpūr and its antiquities.

Pottery.—The pottery discovered at Koṇḍāpūr consists of plain saucers and *chatties* of ordinary domestic use, "ornamented pots, urns, incense burners and vases exhibiting potter's skill of a high order." The sizes vary from 18" to 20" in circumference and 7" in height to 9 ft. in circumference and 3 ft. in height.[1] The symbols on this pottery are *triratna*, lotus design (in some cases full-blown lotus) and *dharma-cakra* geometric designs of a check pattern and floral devices are common in this pottery. "Flutings below the neck of the vessels running towards the base, where they terminate in a small medallion" are seen in some pots. Some of the pottery is extremely thin and delicate and has a red colour with lustrous polish. Possibly a variety of clay highly levigated and reddish in colour was used for making pottery of such fine texture. The common pots were made of clay with a great deal of sand; and this pottery turned pink or light red during the course of firing. Most of the pottery is coated with a slip of red colour (red oxide), more or less dark[2] and varying considerably in the thickness of the coating.

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1. One jar K.R. 3097 recovered from site H. Block 2 at a depth of 6' from the surface is about 4 ft. in height, with a narrow base, a thick rim and a circumference of 9 ft. at the bulged portion.

2. In a few cases it is a chocolate tint possibly because a little manganese was mixed for making the jar water-proof.

Some pottery has been made of kaolin possibly imported from a distance for making terra-cotta figurines or other special objects. A good slip is invariably seen on this pottery some of which is painted.

The recovery of four specimens of rouletted pottery leads us to the problem of co-ordinating the data available with that already obtained elsewhere from excavations conducted by Dr. Mortimer Wheeler and his assistants. There is no mistaking the four pieces found in Kondapur, in particular the circular broken dish (K.R. 1319) with a flat base of about 10" in diameter. "The wall 2" in height is curvilinear with a diameter of about 12" in the middle and 11" at the top. The maximum thickness is about 2". It has been made of extremely close grained clay and is of light brown colour outside with a jet black and well burnished paint inside. The feature of particular interest is the presence of two concentic rings of roulettes in the middle at a distance of about 1.7" and 2.6" respectively from the centre, each having a width of .3" and .6".

Date.—While the texture, type and design of the pottery found so far gives no clue to assign a date earlier than Christ the inscribed and rivetted pottery so carefully examined by Dr. N. P. Chakravarti definitely assigns them to 2nd century A.D. The skill in boring holes in the broken pieces probably with the help of a shap iron drill and the care with which "the joints were placed on both sides of the fragiments and nails carefully rivetted" is another proof of a late date of about 2nd century A.D. for this pottery and also for other antiquities associated with this pottery in chronology.

Personal Ornaments.—Broken bits of bangles of terra-cotta, shell ivory, copper and glass with embossed and incised designs on clay and ivory bangles, amulets and a sort of crescent-shaped objects of terra-cotta and of shell have been found in large numbers. Terra-cotta Beads and necklaces especially of baked clay are in abundance, as also copper aer rings and finger rings. Baked clay imitations of Roman coins (of first century A.D.) with holes at the top are strung together for use as a neck ornament.

Miscellaneous objects : smithy.—Iron implements and weapons such as sickles, forks, hoes, knives, spear heads, chiselas and nails, some of them corroded badly through the effect of moisture in the ferrous soil of Kondapur (so typical of parts of Deccan), furnaces already alluded to, and large earthen water basins (possibly for cooling the metal) are found in large numbers and suggest considerable skill and experience in smithy work.

Ivory.—Skill in ivory work is testified to by one particular ivory piece recovered from Kondapur with a beautiful scene carved on it. An elephant with two men seated on it and a child being lifted up, together with a lady nearby carried forcibly in arms by a man assisted by another holding as stout rod has suggested an abduction scene. The expression on the of each one of these tiny figures is exquisite.

Terra-cotta figurines.—Hollow figurines of Kaolin made in moulds (in two or more parts, joined and fired) have been found in considerable quantities. Some of them show traces of green, red and yellow paint on them, and in just a few cases even the figer prints are still visible.

A second variety of terra-cotta figurines, solid and made of soft clay mixed with sand, are usally found with a coat of light red slip applied before firing.

One of the terra-cotta figurines representing a figure with conventional ringlets of hair with a flat nose, thick lips and oval face shows typical features of an indigenous non-Aryan ethnic type. Another with a jewellery band round the forehead, heavy ear-rings and a mass of hair on the crown of the head and the ornamental plaits falling on the nape of the neck is only one of several more, all of which show the particular care bestowed by the sculptor in the treatment of coiffure. Even in figurines meant to be humorous with dumpy noses and irregular features ? there is long hair turned up at the end.

Some of these figures have been identified with various degrees of certainity. One of them is probably a *yakṣa* (Kubēra) and another—a female with a child on her knee might be Hār ti with a fan or an incense burner in one hand. A mutilated figure is sought to be identified as the mother goddess but another, the best figure in this collection, is identified as a *Bōdhisattva*—an identification which requires serious consideration.

The skill of the artist is seen from the attempt to infuse the figures with an expression of " internal calm and repose worthy of a votary of the Buddhist faith." Even a smile on the lips is " indicative of inner joy". The meditative mood is quite common adding a touch of other-worldliness to the ethereal beauty seen in the refined features of these artistic figurines.

Beads.—It will not be out of place here to refer to one or two general points in connection with beads.

The word bead is derived from the Saxon verb " biddan " to pray and was originally associated with the " beads " on a rosary. But now it means almost any pierced object which can be strung. Beads are particularly valuable for an archaeologist because they are unrivalled in tracing the influence of one culture on another, of one race or nation on another, especially in ancient times. This is because of " their great diversity of form, portability and lasting power."

Antiquity of Beads.—Beads go back to a period well beyond 3500 B.C., when Mesopotamia had a more advanced culture of beads than any other country we know of at that period. "Beads were made of pearl, lapis, carnelian, other stones, shell, ostrich shell and occasionally faience. Many of the stones had definite amuletic properties. Very well made bicone carnelian beads, octagonal barrel beads, and lapis melon beads, were interspersed with elaborate gold beads and pendants and mixed with minute carved beads some not much more than 1 mm. in diameter with a perforation of $\frac{1}{2}$ mm. The etning of carnelian and chalcedony was employed at this period. In one method the pattern was made by etching white lines on a red background. In another the whole surface was first etched white and then dark lines re-etched on that. This process is found in the contemporary Indo-Sumeran beads from Mohenjo Daro on the Indus, where other beads also suggest a connection between the two countries: it is practically unknown in Egypt, but it has been later used in the Crimea and other parts of Russia."

Origin.—Mr. Pigott thinks that etched carnelian beads may be imports from Sumer to India although to quote his own words " the fact that they were apparently manufactured at Chanhu-Daro, and that this curious technique of manufacture survives in Sind to the present day, rather suggests that they were an Indian invention of the third millenium B.C." In view of the greater number of beads found in Sumer from Early Dynastic to Akkadian times and a little beyond, than in Harappa

he argues, "as there is a possibilty, however, that the technique was rediscovered independently in later times, they could represent a Sumerian import to India."

Materials used.—The materials used may be noted with interest. Amethyst was no doubt indigenous to Dekkan: but lapis lazuli was very sparingly used. In the words of Pigott " Lapis is an exotic substance much valued in ancient Orient, and probably obtained mostly from Persia and Afghanistan." Blue colour which was obtained only from crushed lapis lazuli is not used anywhere in the early frescoes of Ajanta, possibly because in the 2nd and the 1st centuries B.C., when the frescoes of Cave No. IX and X were painted, import trade of this region with the Persian Gulf and the West had not developed to any great extent.

Another interesting material used for beads is faience—a term originally applied to a material made in the town of Faenza—but now used to describe a large variety of ceramic products. It is a material best known in Egypt, a product consisting of fine powdered quartz mixed with a small quantity of some other material to act as a flux and then fired. The surface is covered with a glaze but its appearance when examined in thin sections under the microscope is very similar to that of a quartz brick made by putting fine grains of quartz with 20% of lime added in the form of a milk of lime before fusing. A small amount of alkali might be added in many cases to enable the quartz grains to fuse together at a lower temperature. Faience beads can be found coloured, in some cases the colour going right through the bead, but age greatly affects the colour and the material itself, the original colour corroding to a different colour in some cases, and in others the hardness of the bead varying in extremes from an early specimen that can be crushed between fingers to another as hard as quartz.

Technique of making beads.—A word about the technique of making the long carnelian or agate beads, may be added here. We have not been so lucky as to come across a bead-making shop as the excavators of Chanhu-Daro did. But the technique seems to have been similar in both cases and has been described as follows in the case of Chanhu Daro. (Piggott, Prehistoric India. Pelican).

" The rough stone was first split and sawn into a bar, about 3 inches in length and square in section: a copper saw using an abrasive such as emery or powdered quartz was probably used. This bar was then carefully flaked to a rough cylinder and then ground and polished, and at the same time the central longitudinal perforation was bored, by means of tiny stone drills. These were rods about 1½ inches long and 0.12 inches in diameter, with a cup shaped hollow at one end to hold the abrasive powder with which the actual boring was performed—an experiment showed that it took 20 minutes to drill to a depth of 1 millimeter by this means, using emery as an abrasive, and this would mean that it would take about 24 hours to drill a 3 inch bead! Even allowing for greater adroitness in the practised craftsman and the probable use of a wooden bow-drill into which the stone points were fitted, the making of these beads must have been a slow process."

Conclusion.—About 20,000 beads made of lapis lazuli, carnelian, onyx, jade, rock-crystal, amethyst, glass, shell and clay, of a great variety of shapes[1] and sizes have been found at Koṇḍāpūr. In ancient times the Deccan was noted for its bead

1. The shapes include round, discoid, oval with prolongated ends on two sides, barrel-shape, triangular and also the orm of a dagger.

industry as testified to by the great number of beads found at Paithan and Maski besides Koṇḍāpūr. There are some gold beads which show enamel work. Dr. Dikshit has made a special study of 300 selected Beads from Koṇḍāpūr, the results of his study being incorporated in this book.

DATING AND GENERAL CHARACTERISTICS OF THE BEADS

The dates of the Kondapur beads can be given in approximate figures only. Mr. Khwaja Muhammed Ahmed assures us that nothing has been found on the site which can be attributed to a culture later than the second century of the Christian Era. It is presumed that the site was deserted at or about that time.[1] Coins of Gautamiputra Śātakarṇi and Pulumāvi were picked up from the uppermost strata, while other evidence points to the 3rd century B. C. as the earliest possible date when the site became inhabited. Clay copies of coins of the Roman Emperor, Tiberius (A.D.14-37), described below also add an important clue. Numerous terra-cotta figurines, which have a marked affinity with the sculptures from Nagarjunikonda and Amaravati, indicate that the culture at Kondapur reached its zenith in about the same period. This period is generally described as the ANDHRA or the ŚĀTAVĀHANA Period in History. Most of the beads described here belong to this age.

There are however certain beads in this collection which are apparently of an earlier date. In particular I refer to a hatched bead of glazed Quartz (No. 61) which undoubtedly belongs to an earlier culture. I cannot however assign any definite date to this bead which is altogether different from the other beads on the site in its technique. Several faceted beads which are extremely thin are also possibly earlier than the Andhra Period. This feature in the chronology of Indian beads is fairly well established at Taxila, where the specimens from Sirkap (1st century A.D.) are not flattened to as great an extent as on the earlier city site on the Bhir Mound. (Beck, *Beads from Taxila*, p. 8). This is also supported by the evidence at Kolhapur. At Kondapur the excavations are not sufficiently deep, the there are definite indications that the buildings of the Andhra Period overlie an earlier stratum, to which these flattened beads are likely to belong.

On the other hand, there are a number of beads, which are comparatively recent in date. Among the glass beads there is one pale sky-blue opaque bead (No. 164) which to me appears to be a modern bead for the striking similarity it has with many of our trade-beads. It may have been a surface find. In the Kolhapur excavations, this kind of blue glass is absent in the strata prior to the 7-8 century A.D. (No. 212). The same appears to be the case with a red transparent bead with white opaque core which has much in common with modern trade beads. Indian specimens known to Mr. Beck were earlier in date than the 9th century A.D. (cf. *Zimbabwe Culture*, p. 239) but, as similar beads are also known to exist in the second century A.D., it may be that the trade-beads were copied from ancient examples. The small quantity of such beads is also a consideration.

But there can be no doubt that the majority of the Kondapur beads fall within the period 100 B.C. to 200 A.D. and are contemporaneous with the buildings unearthed. What strikes us most about these beads is the very large quantity of pottery beads, perhaps unequalled on any other ancient site in India. The following

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1. Proceedings of the Hyderabad Archæological and Historical Society, (1942), p. 24.

quantitative analysis roughly indicates the different materials used for the beads at Kondapur :—

Pottery	22,000	Lapis Lazuli	25
Glass	700	Garnet	8
Faience	200	Jasper	7
Amethyst	200	Bone	3
Chalcedony ..	90	Agate	3
Crystal	60	Quartz	3
Shell	60	Jade	1
Carnelian	30	Beryl	1
		Total	23,391 beads.

With the exception of a few outstanding examples transferred to the Hyderabad Museum, nearly all the beads are preserved in the Site Museum at Kondapur itself, and it was advantageous to see the whole collection in order to determine whether a bead-type was rare or common. The general dating of the beads referrable to the Andhra Period precluded the possibility of determining whether a particular shape was preceded by its prototype in the pre-Andhra Period, nor was it possible to trace its continuity in a subsequent Period.

It would be hazardous to conclude from the study of the beads from a single site that the types represented in it are characteristic of the age to which they are assigned; but the close parallels that I have been able to note from the lower strata in the excavations at Kolhapur (to which I have often alluded in my text) convinces me that it should be possible, at a later date, to correlate the data and gradually to build up a systematic chronology for the material culture of the Andhras, both for the beads as well as other objects of daily use.

Among the bead-types the most characteristic form is the lenticular collared bead—a form which is repeated in almost all the materials available at Kondapur. I would regard it as a general feature common for the beads of the Andhra Age and the type seems to be very popular in the 2nd century A.D. throughout India. The Kondapur specimens show a preference for pentagonal barrels in amethyst and crystal. The tablet bead, so common in South India, is also fairly well represented.

Taking into account the religious character of the large number of buildings unearthed at Kondapur, it is not surprising to find some Buddhist symbols repeated in the bead-forms such as, the Tri-ratna the Pipal leaf, the *Harmikā* of the Stupa and the Altar. Their close parallels occurring on other Buddhist sites are given while describing these. Amulets also form a large section of the bead-material at Kondapur, but this class is almost restricted to specimens in pottery. Quite a large number of them are shared by "bull" amulets. I am unable to account for the presence and the particular use these amulets were put to. The Taurus, the asterism in which the Buddha was born is suggested as the possible cause of this motif. I have however never seen exactly this motif in early Buddhist Art. It may be remembered, that the amulets are in the shape of couchant bulls, and it is merely the horns of the bull which sometimes occur in the decorative motifs. The Swastika, the Śri-vatsa and the Gaja-Lakṣmi motif are among the other symbols represented by these beads.

Clay medallions in imitation of Roman coins, bring to the forefront the problem of foreign intercourse. It may be recalled that the finds at Kondapur included one Roman Coin of Augustus (died A.D. 14). Sufficient evidence is now forthcoming to show that India was in constant communication with the Roman World up to the 2nd century A.D. The Classical Writers allude to Paithan in the interior of the Deccan being connected with the port af Bharukaccha (Bhroach) which was an Indo-Roman trading port.

The clay medallions all seem to be locally manufactured in imitation of coins of Tiberius (A.D. 14-37), and that they were much in demand is also to be seen from one similar specimen being found in the Śātavāhana levels at Kolhapur[1]. A few beads at Kondapur also appear to be imported from abroad. Glass beads containing an amount of gold foil (*e.g.* Nos. 206, 208, etc.,) and a ruby-red bead over a white opaque matrix (No. 212) appear to have their origin elsewhere. The technique of mixing foil with glass seems to have been perfected under the Romans and the specimens above referred to may have a Roman origin.

Among the beads there is only one bead of beryl, which from its reshaping appears to have been greatly valued. The nearest source for beryl from Kondapur is in the Nellore District of the Madras Presidency. This bead (No. 99), or at least its material must have therefore travelled all the way from the East Coast to the interior. This, coupled with the fact, already mentioned, that the terra-cottas of Kondapur have an affinity with the Amaravati and Nagarjunikonda Sculptures, shows the trend of cultural migration.

CARNELIAN BEADS (Plate I, Figs. 1-17)

Carnelian was a favourite material for beads in ancient India. The principal source of the material was the large deposit near Ratnapura in the Rajpipla State in Gujerat and an extensive bead industry existed in Cambay from a very remote date.[2] Classical writers allude to the trade in agate and carnelian through the port of Bharoch.[3] In the second century A.D. this port was connected by inland routes with Paithan, the then capital of the Andhra Kings, and it is somewhat surprising that in spite of the regular trade connections only a few carnelian beads have been found in the Kondapur excavations. The stone used for carnelian beads at Kondapur is very inferior in quality and lacks the pink red colour characteristic of the material unearthed in Gujerat. Apparently the tinting process of carnelian so largely practised in Gujerat even to this day is unknown at Kondapur. Even in their shapes the carnelian beads from Kondapur do not exhibit much variety. A large number of them are the usual spherical beads and an equal number is shared by cylindrical barrels or convex truncated bi-cones. Some of the principal types found at Kondapur are described below.

Three etched carnelian beads have been found at Kondapur. Two of them are decorated by the first process in which white lines have been etched on the natural stone by a chemical change brought about by the addition of Soda or some other

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1. Since the above was written clay medallions of identical description have been found on several other sites in India. cf. *Ancient India*, No. 5, pp. 101-103 and Fig. 12.

2. Arkell, "Cambay and the Bead-Trade", *Antiquity*, Vol. X, pp. 292 ff.

3. Schuff, *Periplus of the Erythrean Sea*, pp. 42, 193, etc.

alkaline material. The third bead is etched with black lines on white background of a bead treated with the first process. Both these processes were very well known in India from a remote date[1] and beads decorated in this manner have been found at Harappa and Mohenjo-Daro in the third Millennium B.C. Outside India beads decorated in a similar manner have been found in Ur and Kish (3,000 B.C.) and numerous examples are known from Syria and Russia which are dated between 300 B.C. to 1300 A.D. In Persia such beads have been made as recently as during the last fifty years.

Bead No. 1 is a red cylindrical carnelian etched with a white chevron pattern, and belongs to Type I of Beck's classification of etched beads. The white chevron bands are so broad that they almost cover the whole of the surface of the bead leaving very small patches in red near the edges at alternate intervals. Specimens with identical design are not known from any other site in India.

Another bead (No. 2) is a common barrel decorated with a central chevron band in between two broad bands at the edges. This pattern is very common in beads from Maski, where several specimens identical in design have been found. A bead of the same type occurs at Kallur in Hyderabad State (*Annual Report, Arch. Dept., Hyderabad*, 1937-40, Plate XI, c). Excavations on the Brahmapuri Mound near Kolhapur have yielded three such beads. The pattern does not occur in any of the etched beads from Taxila and seems to have been restricted to the Deccan only.

Bead No. 3 belongs to Type II of Beck's classification. The whole surface of this globular bead is whitened, and black lines have been etched on the white surface. In places the black lines have flaked away leaving behind the whitened surface of the bead on which they were first etched.

Very few beads of Type II are at present known.

Two specimens have been found at Harappa (VATS, *Excavations at Harappa*, Plate CXXXI, Fig. 4 b.d.) one at Mohenjo-Daro (MACKAY, *Further Excavation at Mohenjo-Daro*, Plate CXI, 4), and four at Chanhu-Daro (MACKAY, *Excavations at Chanhu-Daro*, Plate LXXIX, Figs. 6,10,12 and 14), in the Indus Valley.

At Taxila two carnelian beads have been found decorated by this process and are attributed to the first century A.D. (BECK, *Beads from Taxila*, Plate I, Fig. 2; and Pl. II, Fig. 27). Two more beads believed to have come from India found their way into Beck's Collection (cf. BECK, "Etched Carnelian Beads", *Antiquaries Journal*, XIII, Plate LXVII, Fig. 5).

The present bead is the only one belonging to Type II found at Kondapur. The Kolhapur excavations have brought to light yet another bead of the same type decorated with the "dot and dash" pattern (bead No. 2763). This specimen is as yet unpublished.

Outside India carnelian and agate beads etched in a similar process are known to have been found at Ur. (two specimens in Beck's collection, *Antiquaries Journal*, Vol. XIII, Plate LXVI, Fig. 5), one guilloche bead from Tell Asmar (*Ibid.*,

1. For a comprehensive survey of the various types of these beads and their distribution, see the present writer's monograph, *Etched Beads in India*, Deccan College Monograph Series, No. 4., Poona 1949.

Plate LXVI, Fig. 8 G.) two beads from Persian Baluchistan in the collection of Sir Aurel Stein (*Ibid.*, Plate LXVIII, Fig. i. b.), and one from Damascus in Beck's Collection (*Ibid.*, Plate LXVII, Fig. 3 D).

After a number of experiments Beck was able to find out the process employed in the etching of these beads. He writes, "I have succeeded in making black lines on whitened carnelian and agates. I have used copper, cobalt and manganese but have failed with lead and got a very pale effect with iron. The cobalt is the easiest, but I think that the copper gives the closest resemblances. Manganese, unless very thickly done, has a rather purple appearance" (Personal Communication to Dr. Earnst Mackay, in *Excavations at Chanhu-Daro*, p. 200).

Series of pentagons arranged on their sides is a very popular design in ancient beads. It occurs both on globular and cylindrical barrel beads. A globular bead similar to the Kondapur specimen occurs at Rairh in Jaipur State. (Puri, *Excavations at Rairh*, Plate XXIII, 18) and on two beads from Taxila (Beck, *op. cit.*, Plate II, Fig., 1 and 18); all the three beads are etched with white on the red surface (Type 1). Cylindrical barrels decorated with the same pattern are also known from Taxila (*Ibid.*, Plate II, Fig. 7 and 17) and occur very frequently on other sites in India.[1] A specimen from Sar Dheri (N.W.F. Province) exists in the Central Asian Antiquities Museum, New Delhi. (cf. *Iraq*, Vol. IV, Plate III, d.). The same pattern is repeated again on a cylindrical barrel bead at Rairh (Puri, *op. cit.*, Plate XXIII, 1) and at Sambhar in the Jaipur State (Sahni, *Excavations at Sambhar*, Plate XI, m.) at Behat near Sahranpur, (cf. Princep, *Essays on Indian Antiquities*, Vol. I, p. 73, Plate IV, Fig. 13), and at Sankisa (*J.A.S.B.*, XLIX (1880), Plate XIV, Fig. 19). Most of these specimens, however, are etched in white on the natural stone itself.

Of some interest are two more beads in carnelian. Both of them are treated with soda or similar alkaline substance so as to whiten the whole surface of the bead.

Bead No. 4 is a spherical bead treated in this way but the natural stone shows through where the white patination has flaked off, as well as, in the bore where the alkaline substance has not penetrated. It is clear from this that the bead was first drilled before it received the fire treatment with alkali. Another bead (not illustrated), a square tablet, is treated in the same way and is noteworthy for its shape scarcely to be found at Kondapur.

Bead No. 5 is a short cylinder bead. Three carnelian beads of identical shape were found at Kondapur. In the Kolhapur excavations this shape was popular for many beads found in the Śātavāhana layers (cf. Bead No. 3,026).

Bead No. 6, is a small cylinder with a very small perforation begun from both the ends of the bead. The same shape recurs in some of the Śātavāhana beads (cf. 3,686) at Kolhapur.

Bead No. 8 is tablet shaped. Several beads of this shape have been found at Kondapur. This shape is very favourite amongst the beads from South India. 39 tablet beads were collected from the megalithic burials in the Salem District. (*Indian Antiquary*, Vol. II, p. 223 and Plate), 18 tabular beads were found in the

1. The 1950-51 excavations at Nasik have also yielded a similar bead in the Śātavāhana levels.

middens near Sulur in the Coimbator District (see *Man*. Oct. 1930, Special India Number, Article 128). Beads of this shape are also known from Vellalur (*Antiquaries Journal*, Vol. XIII, Plate LXIX, Fig. 3), from Manjan-Karanai, near Madras in the Chingleput District, (*Ibid*., Plate LXVI, Fig. 9), from Paravai, near Madura (see J.A.S.B., LVII, 1888, Plate X), and from the Wynaad (*Ibid*., Fig. 7). A very large collection of tablet-shaped beads exists in the Madras Museum (*Ibid*., Plate LXX, Fig. 1). Numerous beads of this shape have also been recovered from the excavations at Maski.

In the beads from Taxila only eight beads of this shape are reported. (Beck, *op. cit*., Plate IV, Fig. 38) but the shape does not recur very frequently in any of the beads from North Indian Sites. I have therefore called this bead " A South Indian Tablet ", from the frequency of its occurrence in the South.

Bead No. 10 is a lenticular collared bead. The collars are effected by scratches near the ends. This shape is very popular at Kondapur. Numerous specimens in chalcedony, amethyst, crystal, lapis lazuli, glazed quartz, etc., are found in the excavations. The popularity of this shape is further evinced by the shape being repeated in shell, glass, bone, faience and pottery beads. In some beads the collars have the appearance of a lug attached to the end of the bead. This variety is distinguished by calling it " Lug collared " as against " Groove collared, " beads mentioned above. Both the varieties are present in the beads from Kondapur.

Beads of this shape appear for the first time in Mohenjo-Daro in the third millennium B.C. In the Bhir Mound at Taxila three lug-collared beads and five groove-collared beads have been found. These are datable to the 5th—2nd century B.C. In Sirkap (2nd century B.C. to 1st century A.D.) only eight beads of shape were recovered, only one of them being groove-collared. Beads of the same shape are also known to have been found in the excavations at Chandravalli (Mysore State), datable to the 1st century A.D. At Maski beads of this type are fairly common. Identical beads found at Sisupalgarh near Bhuvaneshwar in Orissa are attributable to the Mauryan or Sunga Period. (cf. *Ancient India*, No. 2, p. 97, and *A.S.I., A.R.*, 1934-35, p. 78). Kausambi in U.P., Pataliputra (Bihar) and Besnagar (Central India) (cf. *A.S.I., A.R., A.R.*, 1913-14, Plate LX, Fig. 68) are also known to have produced such beads. The type also recurs in the surface collections at Bonidi in the Dhalbhum Pargana.[1]

In the excavations at Kolhapur, beads of this shape were fairly common especially in the case of glass and faience beads in the Śātavāhana layers (2nd B.C. to 2nd century A.D.) though the type continued only in a few cases even up to the post—Śātavāhana Period (in layers attributable to the 6th century A.D.). Evidence for the beads found at Arikamedu also points to their being very popular in the first and second centuries of the Christian Era. From all the evidence thus gathered it would not be far wrong to say that the type became almost universal throughout India during this period, when the Śātavāhana Kings were ruling in the Deccan. This bead therefore may be called a typical bead of the Andhra Period.

Recently Dr. R.E.M. Wheeler has drawn particular attention to this type of bead (*Ancient India*, No. 2, p. 97). In his excavations at Arikamedu it is noticed that the groove-collared beads are on the whole earlier than the lug-collared ones.

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1. E.F.O. Murray, " Ancient Workers of Western Dhalbum ", *J.A.S.B.* (n.s.) VI, 1940, p. 92.

The same priority of groove-collared beads over the lug-collared ones is also fairly well established at Taxila, though certain specimens found in the Bhir Mound show that the lug-collared bead was known at that place as early as the 2nd century B.C. In the beads from Kondapur no such generalization can be made. Both the types exist side by side and the excavations were not sufficiently deep to determine the priority of one type over the other.

Bead No. 11 is a long truncated bi-cone. Many beads of this shape are known at Kondapur and the same shape is frequently repeated in the carnelian beads from Kolhapur.

Bead Nos. 12 and 13 represent the most commonly found barrel shaped beads so frequent on almost all the ancient sites in India.

Bead No. 14 is a flat hexagonal barrel. This also is a very favourite shape for beads in India. In the Megalithic burials at Raigir in the Hyderabad State, six hexagonal barrels of quartz crystal, four beads of jasper and one lapis lazuli bead of this shape were obtained. In the beads from Taxila examined by Beck there were ten beads having this shape. This shape was very common for carnelian and amethyst beads found there. (Beck, *op. cit.*, Plate IV, Fig. 2; VI, Figs. 3, 19, etc.) Beck states that this shape is used frequently for quartz beads in the "royal graves" at Ur. Woolley, *Ur Excavations*, the Royal Cemetery, Vol I, Fig. 70, type 10, Vol. II, Plate 134 (U 8,693); Plate 133, (U 11,806, c. 11,807), etc. "faceted double conoids (type 10) well known in the old cemetery disappear altogether after that date. In Kish identical beads of amethyst are found *circa* 2,000 B.C. Langdon, *Excavation at Kish* I, Plate XXIV 2.. They are also common in Egypt at about the same period.

Bead No. 15 is a large square barrel. At Kolhapur a bead of green Jasper (No. 2,870) appeared in the lowermost strata of the excavations attributable to 2nd century B.C. At Taxila, a pottery bead of this shape is dated at 3rd century B.C. (Beck, *op. cit.*, Plate X, Fig. 8). The present specimen is the only one of this shape to be found at Kondapur and appears to be a very old bead.

Bead No. 16 is a tablet and is comparatively thinner for its size.

Bead No. 17 is very interesting. It is carved in imitation of the *tri-ratna* symbol sacred to the Buddhists. This shape is also popular on many a Buddhist site in India.[1] A *tri-ratna* of carnelian, found in the excavations at Maski, is preserved in the Hyderabad Museum. In the relic casket of the stupa at Sopara (near Bombay) two beads of amethyst and beryl respectively have been found. They are assigned to the latter half of the second century A.D. (188-190 A.D.) (cf. *J.B.B.R.A.S.*, Vol. XV, Plate XIV.) In Taxila the same symbol is repeated in several materials like serpentine, agate, carnelian, garnet, shell and ivory. Their dates range from the 5th century B.C. to 1st century A.D. (cf. *Beads from Taxila*, Plate I, Fig. 25; Pl. III, Fig. 19, Pl. IV, Figs. 21-22; Pl. VI, Fig. 33; Pl. VIII, Fig. 7; Pl. X, Fig. 14). The shape also occurs in the beads from Lauriya Nandangarh (*A.S.I., A.R.*, 1934-35, Plate XXII, m.) and in the Piprawah Stupa (cf. *J.R.A.S.*, 1898, Plate opp. page 578). A mother-o-pearl *tri-ratna* is also known from Bodha-Gaya (Cunningham, *Mahabodhi*, Plate XXII, Fig. 28), and a carnelian bead of identical shape is found in Manikalya, Punjab. (Cunningham, *Archæological Survey Report*, Vol. XIV, Plate IV, Fig. 6). The

1. *Tri-ratna* shaped beads have since been found at Arikamedu in the French excavations and at Kosam in 1950. This shape is also represented in the surface collections made at the Tripuri site near Jabalpur.

garlands worn by some of the figures at Bharhut show clearly the manner in which the *tri-ratna* bead was worn in a necklace. (cf. BACHHOFER, *Early Indian Sculpture*, Vol. I, Plate 21). *atri-ratna* Carnelian bead from Kanauj exists in the Rivett Carnac Collection. *Journal of Indian Art & Industry* 71, Plate 25.

AGATE BEADS (PLATE I, NOS. 18-20).

The number of agate beads found at Kondapur is surprisingly small. Only three beads are reported.

No. 18 is a triangular barrel made out of carefully selected pellucid stone. Two beads of this shape have been found at Taxila. (Beck *op. cit.*, Plate IV, Figs. 4 and 40) both made of carnelian. But specimens in agate have also been obtained in the 1945 excavations at the Bhir Mound site.

Dr. Hunt's Collection from the megalithic tombs near Raigir included six quartz crystal beads of this shape and one of jasper. (BECK, in *Man*. Special India Number, Oct. 1930, No. 128). Amongst the beads from Maski, triangular barrels of lapis lazuli are said to have been found. (Annual Report, Archæological Department, Hyderabad, 1935-36, p. 22).

The antiquity of this shape has been traced by Beck (*Man, op. cit., Art.*, No. 128), as follows—

Beads of this shape are first noticed in alabaster beads of the Tasian Civilization which is the oldest in Egypt.[1] Carnelian beads of the same shape occurring at Kish belong to 2,000 B.C. Quartz specimens in Ur and Kish are attributed to 500 B.C

Other agate beads found at Kondapur are of the common spherical shape.

Bead No. 19 is a pendant of banded agate. The material for this pendant is very carefully selected, and is particularly attractive for its beautiful polish. This is the only specimen of a drop-pendant from Kondapur. The horizontal bore at the top of the piece is extremely small and is very carefully drilled.

Bead No. 20 is made out of a stone similar to the banded agate pendant just described. It is shaped in the form of a truncated bi-cone and is carefully polished. Banded agate of a similar kind is used for certain unfinished beads from Kolhapur.

CRYSTAL BEADS (PLATE I. NOS. 21-43).

Quite a large number of crystal beads has been found in the Kondapur excavations. They are noteworthy for the selection of the material and for their good workmanship. Several unperforated specimens recovered from the site show that crystal in large quantities was actually worked on the site. The number of discards due to bad perforation is extremely small in the case of crystal beads probably because the workers were at an advantage when dealing with a transparent material. Enough care seems to have been taken to see that the perforation started from two

1 Brunton, *Mostagedda and the Tasian Culture*, Plate XIII, 18 and Plate XXII, 27.

ends of the bead run as near the axis as far as possible and that these meet exactly into each other. The shapes most commonly noticed are spheroid, pentagonal or hexagonal barrels and cylinders. Amongst the less common forms mention may be made of a square barrel (No. 25) and one lenticular bead with collars (No. 26) and a long truncated hexagonal bi-cone (No. 27). Besides these a small truncated cone (No. 28) and a tablet bead (South Indian type) No. 38 are noteworthy for best workmanship. Bead No. 43, a short truncated regular hexagonal bi-cone, and another hexagonal faceted bead (No. 42) would have made excellent beads had they been perforated. Every precaution has been taken to avoid the faults in the natural stone.

AMETHYST BEADS (Plate I, Nos. 44-53).

Kondapur has given a magnificent variety of amethyst beads. A very remarkable feature of these beads is the large quantity in which they are obtained and the reason for this is quite obvious. A large deposit of crystal quartz with purple veins of manganese in it lies near Gopalrum Gutta about three miles to the east of the village Terpole. Ther-pur (*Sanskrit* : Sthavira-pura) would appear to be the original name of the village ; meaning " a place for monks " adjacent to the Kondapur site. It was probably from these deposits that the material for the amethyst beads was quarried. To this day a large number of worked and unworked stones of amethyst lie strewn all over the Kotgudda site.

Amongst the types noticed at Kondapur lenticular and circular barrels with collars at ends predominate. Both the lug-collared and groove-collared varieties occur. Spheroids and long convex bi-cones have also been found. A rare type is represented by two short rectangular barrels (cf. No. 46). Chalcedony beads of identical shape have also been noticed in Kondapur. In the excavations at Brahmapuri near Kolhapur, similar beads were found in the layers associated with Śilāhāra coins of XIth century A.D. Several unperforated barrels have been found at Kondapur and in the beads from Taxila this type is very frequent.

The material of amethyst beads of Kondapur is generally well selected and carefully polished. In particular a long convex bi-cone (No. 45) and an unperforated pentagonal barrel (No. 53), are noteworthy for the finest polish they bear and good workmanship bestowed on them.

GARNET BEADS (Plate II, Nos. 54-57).

The number of garnet beads found at Kondapur is extremely small and most of the specimens found are in the amygdaloid state with holes perforated in them. Bead No. 55 is a particularly well finished bead with clean facets and bears a very high polish. It is one of the few beads from Kondapur which are extremely thin, regularly shaped and flattened. Beck (*Beads from Taxila*, p. 8) considers this to be characteristic of some very early Indian beads. The present specimen therefore may be attributed to a somewhat earlier date than the other beads from Kondapur which are assigned to the second century A.D. by the excavator. Bead No. 57 is an attempt to convert a spherical bead into a pentagonal faceted one after it was drilled.

JADE BEAD (Plate II, Nos. 58).

Only one Jade bead, illustrated on Plate II, Fig. 58, was found in the Kondapur excavations. It is of the well-known lenticular collared type commonly noticed in beads of the second century A.D. This bead is notably thick for its size.

GLAZED QUARTZ BEADS (Plate II, Nos. 59-61).

Only three beads of Glazed Quartz have been noticed in Kondapur. These are figured on Plate II. No. 59 is a short pentagonal barrel and it is a very common shape for crystal and amethyst beads on the site. No. 60 is an elliptical cylindrical barrel with collars prepared out of a very well polished stone. Unfortunately it is broken at one of its ends while boring the hole. No. 61 is a well made bead which was probably intended to be shaped as a lion (?). It is decorated with several cross hatchings on the body on both the sides of the bead. Hatched lines are seldom noticed on Kondapur beads. From the design this appears to be a very old bead, possibly the oldest in Kondapur yet found. Unfortunately no details are forthcoming as regards the exact findspot and the depth at which it was recovered. Exactly identical beads of glazed quartz are known to me from Bhita, (Lucknow Museum No. 47: 48); and Rajghat, near Benares. A specimen from Kosam, excavated by the Allahabad University Kanshamki Expedition in 1950, is dated about the first century A.D. Two specimens from Taxila (Beck, *Beads from Taxila* Pl. V, 1-2) also of glazed quartz, are dated about the same period. Besides the present specimen, from Kondapur, two similar quartz beads of this shape have been found at Maski also.

YELLOW QUARTZ BEADS (Plate II, 62-63).

Bead No. 63 illustrated on Plate II is one of the two Yellow Quartz beads found at Kondapur. Yellow Quartz is otherwise known as cairngorm. This specimen exhibits good workmanship but the stone is not well selected. There are more than two attempts at perforating the bead. Bead No. 62 is a pentagonal barrel.

ONYX BEADS (Plate II, Nos. 64-66).

Only three Onyx beads were found. Each of them is noteworthy for its exquisite beauty. No. 66 has three alternate bands of white, black and slate mixed with a translucent colour. Bead No. 65 is apparently carved out of a similar stone as bead No. 66 but is considerably smaller in size. The third bead (No. 64) has only two bands of milky white with a kind of slate grey intervening. All the beads are cylindrical in shape.

LAPIS LAZULI BEADS (Plate II, Nos. 67-88).

Lapis Lazuli as a material for beads is known in ancient India from a very early period. Beads carved out of this material have been found at Harappa, Mohenjo-Daro and other Indus Valley sites. The occurrence of Lapis Lazuli beads in the megalithic burials at Raigir is well-known. Few Lapis Lazuli beads, however, have been discovered at Kondapur and not many new types could be distinguished. It is surprising that there are no long tapering barrels to be found at Kondapur, whereas these are a very common feature among the beads from Maski and other early sites in the Hyderabad State. Their absence in Kondapur is very conspicuous. A number of beads are of the common globular variety. A rare type of bead (No. 70) is represented by a collared barrel which was found in Block 70 at a depth of 1½ feet. Beck (*op. cit.*, Pl. VI, 20) examined a similar specimen from Sirkap, Taxila, which he considers to be a rare type in India though identical specimens were noticed by him in Mesapotamian beads both in Lapis and other stones. Bead No. 71 is a lenticular collared bead, typical shape for the Śātavāhana Period. Beads 83-84 again represent a familiar shape. Square cylinders of this shape are commonly noticed in the Raigir megalithic tombs excavated by Dr. Hunt. The same type of bead is again met with

at Maski. Out of the seven Lapis Lazuli beads found at Kolhapur,as many as three were square cylinders. The stone used for them is very inferior in quality and shows many creamy white patches in the structure. Only one amongst the beads has a true navy-blue colour characteristic of the material. No. 68 is a dagger shaped pendant. Identical specimens in faience and chalcedony (Nos. 132 and 100 respectively) also occur at Kondapur. At Taxila, two-dagger shaped pendants of agate and carnelian have been found (Beck, *Beads from Taxila*, Pl. III, 10; IV. 7), but none of them have any semblance to the Kondapur specimens.

No. 69 represents a small vase ; pendants of this shape are very rare at Kondapur though there exists another specimen in Pottery beads. The vase, however, seems to be a very common shape for beads in Taxila, where Carnelian, Quartz, Amethyst, Malachite, Lapis Lazuli and Pottery beads of this shape have been found. (Beck, *op. cit.*, Pl. IV, 15, 30 ; V. 5 ; VI, 8, 14, 23 ; IX, 25, 35 ; X, 11). The Bala Hisar Mound near Charsadda has also given us a few vase shaped pottery beads (*A.S.I., A.R.*, 1902-03, p. 153-54.). Excavations in Stupa 18 at Sahet Mahet yieltded two-stone beads of a similar shape (*A.S.I., A.R.*, 1910-14, Plate XII, ab), and the shape again recurs in the mother-o-pearl beads found in Buddha Gaya, (Cunningham, *Mahabodhi*, Pl. XXII, 18).

Bead No. 88, is a broken half bead which has been reused by drilling a new horizontal perforation. Marks of the original vertical perforation can still be seen near one of the ends of the bead. It is somewhat similar to a bead from Taxila (*op. cit.*, Plate VI, 21). The material for this bead is very fine and this accounts for its reuse into another bead.

A rare Swastika bead (No. 67) is illustrated on Plate II. The design appears in relief on both the sides of the bead with the arms of Swastika in the anti-clock-wise direction. This emblem is also noticed on a small coral bead found on the temple site at Buddha Gaya (*Mahabodhi*, Plate XXII, 28.) At Maski, in the Hyderabad State, a rayed Swastika bead of Lapis Lazuli was found in the 1936 excavations. It is a very tiny specimen.

JASPER BEADS (Plate II, Nos. 89-97).

Beads of Jasper are comparatively scarce at Kondapur, only seven specimens being noted. Only two types occur in the green variety. One of them (No. 93) is a tablet bead of the South Indian type. No. 97 is an unusually large perforated ball about two inches in diameter and cannot be called a bead, strictly speaking. A similar specimen somewhat smaller in size was also found in the Kolhapur excavations. The rest of the green Jasper beads are the usual spheroids of no interest.

In the red variety of jasper, one cornerless cube (No. 89) and several spherical beads are the only two types noticed. No. 92 represents a very highly polished barrel of red Jasper.

BERYL BEAD (Plate II, No. 99).

Only one beryl bead was reported from Kondapur. It has fine bluish-green colour and a portion from this bead has been chipped off which was probably broken while perforating. The new perforation which runs very near the chipped portion has misshaped the pentagular barrel shape of the intended bead. This shows that the bead was valued for some reason or the other.

The nearest source for beryl from Kondapur is the Nellore District in the Madras Presidency. The bead or at least is material therefore must have travelled all the way to Kondapur from the Eastern Coast and this agrees well with the affinities to the Amaravati School of sculpture exhibited by the terra-cotta figurines from Kondapur.

CHALCEDONY BEADS (PLATE II, NOS. 100-112).

About 90 beads of Chalcedony were found in the Kondapur excavations. They are mostly of the varieties commonly noticed amongst beads, such as spheroids, annular and faceted. Among the 13 beads selected for examination the following are noteworthy. No. 100 is a dagger shaped pendant which has its parallel in Faience and Lapis Lazuli among the Kondapur beads. In Taxila two 'dagger shaped' pendants of Agate and Carnelian have been found (Beck, *Beads from Taxila*, Pl. III, 10; IV, 7.). In the modern bead industry at Cambay, the dagger is a very favourite shape for carnelian pendants. Bead No. 101 is designed in the shape of Buddhist Altar. This is familiar symbol in Buddhist Art and representations of the same are met with at the beginning of some cave inscriptions in Western India. Pendants of this shape are also noticed in the garlands worn by some figures carved at Bharhut. This symbol is often associated with the Tri-ratna and the Nandipada which are sacred to the Buddhists. Three such beads have been found in Kondapur. A similar specimen in beryl is also known from Buddha Gaya (CUNNINGHAM, *Mahabodhi*, Pl. XXII, 28). An Altar bead of identical design is also known from Arikamedu. PATTABIRAMIN, *Les fouills d' Arikamedou, Pondichery* 1946, *Planche* XXV, 8.

Bead No. 102 is an elaborately prepared representation of the Pipal leaf the sacred associations of which to Buddhism are well-known. A medial ridge in the centre of the bead marks the stem of the leaf. Glazed Quartz beads of a similar shape are found in Sirkap, Taxila, (Beck, *op. cit.*, Pl. V, 23, 24.) which are dated about the first century A.D. Though Beck describes these as "Butterfly nut beads", I have no doubt that they really represent the leaves of the Pipal tree (*Ficus Religiosa*). Several beads of pottery imitating the Pipal leaf occur in Kondapur.

A bead similar to this shape is also known from the French excavations at Arikamedu. (cf. Pattabiraman, *Les fouilles d' Arikamedu*, Pondichery, 1946, Planche, XXV, 7.)

A twisted hexagonal bead (No. 103) has its facets ground in such a way as to represent spotted 'flats' all over the surface. As several specimens of this type exist in the Kondapur Museum it is possible to say with certainty that in all these beads no attempt was made to cement any other material over these 'flats' in order to convert them into cemented ''eye-beads.' [2] One rectangular Tablet bead (No. 105) has its parallel in amethyst found in the excavation. No. 112 is a collared gadrooned bead carved in imitation of several such beads of faience. No. 106 has radial grooves round the edges and is the only specimen of this variety found at Kondapur.

SHELL BEADS (PLATE III, NOS. 113-127).

A very large number of shell beads have been found at Kondapur. 15 from these were selected for examination. A great majority of them are prepared out of the central columela of large conch shells. Bead No. 115 was originally intended

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1. Burgess and Bhagwanlal, A.S.W.I., X. Plate 7; Kuda No. 23. Varients also occur at Kuda Nos. 1 and 18.

2. Bi-cone hexagonal beads with rounded flats occur frequently in the 2nd century B.C. levels at Kosam in the 1950-51 excavations and also at Nasik in the Śātavāhana stratum.

to be made into a toggle bead but later changed into a regular bead after the vertical bore fractured it into two halves. Marks of this drilled hole can still be seen near the end of the bead. No. 116 represents a very well made disc. Similar beads of steatite and faience are common among the beads from the Indus Valley sites. Nos. 118-119 are made out of the central core of a large conch shell and are tablet shaped. Bead No. 120 is an unusual spacer retaining the spirals inside the conch shell. No. 121 is particularly well finished. Nos. 122 and 125 are prepared out of sedimentary shell, while Nos. 123 and 127 represent the popular forms of collared beads.

Of special interest is a 'Boat' bead (No. 124) prepared by decorating the concave upper surface with " cross and hatch " marks in imitation of a "dhow". The lower portion of this bead is still unseparated from the lower matrix and the bead therefore is in an unfinished condition. Lozenges similar in shape to this design are obtained in the Indus Valley sites where they seem to be used for inlay work. (VATS, *Excavations at Harappa*, Plate CXXXIX, 80; Mackay, *Further Excavations at Mohenjo-Daro*, Plate CVI, 6; MARSHALL, *Mohenjo-Daro and the Indus Valley Civilization*. Plate CLV, 53.) Boat shaped beads are not commonly noticed in India. BECK notices a XVIII Dynasty faience bead from Tel el Amerna in Egypt, which has cross perforations in the upper portion of the hollowed boat. (*Archaeologia* 77 p. 49, Fig. 36 A. 5). I do not know of any other bead in the published specimens from well-known sites in India.

CORAL BEAD (PLATE III, No. 128).

Only one Coral bead was found. It is illustrated on Plate III and is noteworthy being a solitary specimen with hour-glass perforation.

BONE BEADS (Plate III, Nos. 129-131).

Three Bone beads illustrated on Plate III represent only the most common shapes. Bead No. 130 is a cylindrical collared bead distinctive of the Andhra Period.

FAIENCE BEADS (PLATE III, Nos. 132-155).

Faience is a term commonly applied to a pottery-like ceramic product, in which quartz grains are fused together with an enormous quantity of lime. Occurrence of faience beads in the Indus Valley sites is well-known. At Taxila fewer faience beads have been recovered. They are also found at Charsadda near Peshawar. In Kondapur a very large number of faience beads have been found. Most of these beads are very hard and do not seem to have undergone any change in spite of their being under soil for a very long time. Majority of the beads have a faint blue colour. None of the beads bear any glaze over them. Due to indifferent firing some beads retain a pottery-like core beneath. The shapes of these beads are very interesting.

Gadrooned beads of the globular variety out-number any of the faience beads found on the Kot-gudda site. The number of gadroons varies between five to nine. Only a few beads have five ribs, a large number have six. Beads with seven gadroons are fairly well represented, but those having eight ribs are in a vast majority. A bead with nine gadroons is also fairly common at Kondapur. In most of the cases the beads are without any collars at their ends but in some lug-shaped collars occur at both the ends. Nos. 137 and 138 represent these varieties. The gadroons in these beads are formed by merely scratching deep notches over the globular body. Beads of this type are very common amongst those found at Charsadda [*A.S.I., A.R.*, 1902-03, Plate XXVIII, (*b*) 2].

Short and cylindrical barrels with collars appear very frequently. The barrels are both thick as well as thin. A short bead represented by No. 140 is particularly attractive. About 40 beads of this type are found in the excavations.

Flat lenticular beads with collars, represented by Nos. 141-142, are in a very large number. The collars are effected by merely scratching a line near the edges in some of them but others also have lug-like collars at both the ends. No. 142 retains a pottery-like core due to bad firing.

Discs in three different sizes have also been recovered from the site. These are represented by bead Nos. 143-145. They have a uniform thickness throughout and appear to be wheel-made.

Annular beads with large perforations (*e.g.* No. 143) are scarcely found.

Amongst the less commonly noticed forms mention may be made of a few thin tabular beads of various shapes. No. 147 is a regular flattened hexagonal tablet made of green faience. Its surface is crackled due to uneven firing. No. 149 is diamond shaped. This shape rarely occurs among the beads at Kondapur.

A Tablet shaped bead (No. 146) is not common in faience though fairly well represented by others in carnelian (*e.g.*, No. 16), crystal (No.38) and green jasper No. 93), as well as shell (Nos. 118-119.).

Amongst the special types of beads the following are noteworthy. No. 132 is a dagger shaped pendant being the only one made out of faience at Kondapur. Numerous parallels to it from other sites have already been described. Bead No. 133 is a diamond shaped concave bi-cone disc. The same shape is repeated in some of the pottery beads found at Kondapur. No. 134 is a truncated bi-cone whose outer surface has crackled. This shape is frequent for carnelian beads at Kondapur.

GLASS BEADS (Plate IV., Nos. 156-212).

A very large number of Glass beads have been found in the Kondapur excavations. A collection of nearly 700 beads was examined in the Kondapur Museum and 57 beads were selected for report. Most of the beads are lenticular barrels with lug-collars and numerous specimens of globular and cylindrical beads were obtained. Transparent glass is used for 15 beads out of the whole collection and the largest number of beads is coloured with copper and cobalt. Opaque white and black glass is absent. The majority of the beads are of various shades of deep green and blue, a few beads being amber coloured. Variegated glass with foil occurs only very rarely and only three beads with ruby-red colour have been noted. The beads do not exhibit much variety in their shapes and without a proper analysis it is difficult to make a comparative study of these with glass beads found on other sites in India and to determine the exact parallels. As in other materials, however, a rough comparison is attempted here with the glass beads found in the Kolhapur excavations. The beads are described in the order of their selection and the different processes in their manufacture have been given wherever possible. No microscopic examination was possible on the site but a few specimens have been examined later.

Bead No. 156 :—Large annular bead prepared out of cane glass. Yellowish green in colour. The colouring agent is probably copper. Very few beads of this variety occur at Kondapur. Sp. gr. 2.622.

Bead No. 157 :—Globular bead prepared by rotating a small amount of moulten glass round a pointed spoke. Copper-coloured. Sp. gr. 2.60.

Bead No. 158 :—Cobalt-coloured wire-wound bead. Deep blue.

Bead No. 159 :—This bead is prepared by twirling a long glass wire round a tube and its ends fused together. The surface has crackled during the process of cooling and the central spirals show clearly in the perforation. Opaque blue colour. The bead appears to be comparatively modern. Sp. gr. 2.66.

Bead No. 160 :—Made by the wire-wound process and contains a very large percentage of cobalt in it. Dark purple colour. Sp. gr. 2.39.

Bead No. 161 :—Cylindrical in shape. Probably made from the same glass as No. 157 above. Sp. gr. 1.453.

Bead No. 162 :—It is prepared in the same manner as above and contains a high percentage of cobalt.

Bead No. 163 :—This bead prepared out of a pale blue translucent glass in which canes of some foil have been mixed. This gives the bead some lustre but the glass otherwise has a very bull appearance. Sp. gr. 2.60.

Bead No. 164 :—This bead is taken out of a mould. Bluish opaque colour. This bead is probably modern Sp. gr. 2.787.

Bead No. 165 :—This is a cylindrical barrel with collars effected by scratching with a pointed instrument while the glass was hot. Cobalt coloured.

Bead Nos. 166-167 :—These are cobalt coloured beads shaped in lenticular tarrels. A very large number of these beads have been found showing the popularity enjoyed by the shape in the Andhra Period. Nearly 400 beads of this shape exist in the Kondapur Museum. Sp. gr. 2.398.

Bead Nos. 168-174 :—All these beads are cylindrical barrels with collars at their ends (groove-collared) but with different hues of cobalt and copper in them. No. 170, Sp. gr. 2.346.

Bead No. 175 :—It is a bi-conical bead prepared by twirling a wire cone into a requisite shape. Its colouring agent is probably cobalt and has a conical perforation made by a sharp instrument. Beads of this shape are very scarce at Kondapur. Sp. gr. 2.32.

Beads Nos. 176-180 :—These five beads are made out of a variety of amber coloured glass. The colouring agent has not been determined. The surface of these beads has crackled in many instances and numerous impurities and bubbles are noticed in the structure. Very few beads with this colouring agent occur at Kondapur.

Bead No. 176 :—It is a cylindrical barrel with collars. Opaque amber coloured glass.

Bead No. 177 :—This is a tabular bead of transparent amber coloured glass prepared by the double-strip method. This shape is unusual for glass beads at Kondapur. Sp. gr. 2.545.

Bead No. 178 :—Lenticular collared bead with a crackled surface. Moulded. Sp. gr. 2.485.

Bead No. 179 :—Cylindrical barrel bead with groove-collars, prepared by the wire-wound process.

Bead No. 180 :—Lenticular barrel with collars. Slightly misshaped during the process of cooling. Sp. gr. 2.292.

Bead No. 181 :—Lenticular barrel bead with collars. Prepared by taking canes of opaque green glass. Beads of a similar glass are also obtained at Arikamedu (Information based on some beads from this site preserved in the Museum of the Deccan College Research Institute, Poona.) Sp. gr. 2.528.

Bead No. 182 :—Lenticular collared bead of a bluish green glass. The surface of this bead has crackled while cooling. Sp. gr. 2.34.

Bead No. 183 :—Another lenticular collared bead but of a different kind of bluish green glass.

Bead No. 184 :—Cylindrical barrel made of cobalt glass.

Bead No. 185 :—Long cylinder made from the same glass as bead No. 182. Sp. gr. 2.357.

Bead No. 186 :—This is a transparent green glass bead made by the double-strip method. Two pieces of moulten glass are pressed against each other with a small rod in between them and cut off to the required shape of the bead. Hexagonal truncated bi-cone. The glass used for this bead is free from air bubbles and contains many foreign bodies visible to the naked eye. Crackled surface. Sp. gr. 2.291.

Bead No. 187 :—Hexagonal bi-cone. Moulded glass. Transparent, copper-coloured pale green glass. Sp. gr. 2.307.

Bead No. 188 :—Lenticular collared bead of the popular shape. Moulded glass of a transparent bluish green hue. The perforation is made by inserting a rod through the bead when the glass was plastic. This leaves a conical depression at one end of the bead while the other end has a burred edge. Similar beads occur very frequently in the Śātavāhana layers at Brahmapuri near Kolhapur (cf. bead No. 1377). Sp. gr. 2.337.

Bead No. 189 :—Annular bead made from a similar glass as above. Sp. gr. 2.261.

Bead No. 190 :—Bi-conical short bead. Made from a glass similar to bead No. 187.

Bead No. 191 :—Annular bead, cobalt colour

Bead No. 192 :—Similar to above. Sp. gr. 3.466.

Bead No. 193 :—Copper coloured deep green glass containing a number of air-bubbles in it. Moulded. Sp. gr. 3.589.

Bead No. 194 :—Small tablet bead of cobalt glass prepared by the double-strip method. The perforation has a burred edge near one of its ends.

Bead No. 195 :—Long cylinder of opaque one jet black glass. Colouring agent not determined. Very few beads of this glass have been found at Kondapur. Sp. gr. 2.467.

Bead Nos. 196-199 :—These beads are prepared out of cobalt blue glass. All of them are gadrooned.

Bead No. 196 :—It is a large bead of the melon type cut from a long tube. It has eleven gadroons all over the body but not well made. A long strip of plastic glass was wound over a cylindrical tube and its two ends fused. It was then segmented and the gadroons cut over the body of each bead. It was then cut off from the segments with a sharp instrument. Beads prepared in this way are also found in a large number at Kolhapur associated with the Śātavāhana layers. (cf. bead Nos. 2272, 2455, 2843, etc.). Nos. 197 and 198 are two such tubes with four beads on each of them in segments. Bead No. 199 is a twin-bead made by the same process and has a very deep shade of blue in it. Sp. gr. 2.422.

Bead No. 200 :—This is a segmented glass bead coloured with cobalt. The cuttings near the edges show that it was prepared out of long canes by blowing. Segmented beads of this type are not very frequent at Kondapur.

Bead Nos. 201-202 : —These are two lengths of tubes made out of cane glass. Cobalt coloured. Beads of this glass are very rare at Kondapur. Beads of this type are very frequent at Arikamedu near Pondichery where the opaque coppered variety is found in great abundance. Several beads found in the 1945 excavations have been attributed to the post Arratine Period (cf. *Ancient India*, No. 2. Fig. 40, Nos. 30-34). Existence of several moulten glass pieces and unfinished beads indicate the probability of an industry at Kondapur where glass was worked in olden days. Sp. gr. 2.185.

Bead No. 203 :—This is a lenticular diamond shaped bead. This shape is rarely to be noticed in the beads at Kondapur. It is made by taking two shades of pale blue glass and swirled with a layer of milky white opaque glass between them. These are then moulded into a bead. This leaves a brilliant white zonal line in the central portion. A bead almost similarly decorated was found in the Kolhapur excavations; at a depth of 7 feet BS. associated with post-Śātavāhana layers (No. 2080). The colour of this bead is similar to a bead from Sarawak illustrated by Beck. *Man*, 1930, Plate K 26. Sp. gr. 2.617.

Bead No. 204 :—This bead is identical in technique with the bead No 203 described above. It is made of cobalt glass with two threads of white opaque glass running round the bead in a chevron. In between the two layers of white there appears a bluish green glass which adds to the distinctive features of the bead. These are the only two beads of this variety to be noticed at Kondapur. Sp. gr. 2.739.

Bead No. 205 :—This is a beautiful cylindrical gadrooned bead with collars at the ends. It is made from a bluish green glass. The colour takes a deeper shade in the notches for the gadroons and has the effect of being made from two different kinds of glasses. It is prepared by the folded method. An exactly similar kind of glass is used for two beads found in the Kolhapur excavations (Nos. 4014 and 4109), both of which came from the Śātavāhana levels. Sp. gr. 2.273.

Bead Nos. 206-209 are very interesting for the technique in their manufacture. These are made from a variegated glass mixed with layers of thin gold foil in between them. In India Bhita is said to have produced two such beads (cf. *A.S.I., A.R.*, 1910-11, pp. 92-94; Glass objects No. 6; see also Marshall in *J. R. A. S.*, 1911, p. 131 f.n.) and few have been recovered in the Kolhapur excavations, in the pre-Śātavāhana layers at a depth of nearly 26 feet BS.[1] Beads with the same technique have also been found near Kuala Selinsing, in the Federated Malaya States. Beck writes, "One of the most distinctive types of beads found here are some of colourless transparent glass in which is a layer of glad leaf. These have been made in cane and notched by pressure when hot, so that they could be broken off." "These have been found in Java and are common in Egypt and Syria where they are called Roman. This, however, is not a very happy name as they were made over a very long period, being found amongst the La Tene beads in Corsica, several centuries B. C. and amongst the Danish beads in York which date to the 9th and 10th centuries A.D." (Beck, in *Man*, 1930, Art. 130). Beck apparently did not know of the two beads found in Bhita and as regards the Kondapur specimens I have no doubt that these were imported by the Romans, whose trade connections with Kondapur are now fairly well established. (see above p. 3).

Bead No. 206:—Is a short cylindrical bead with crenelated surface. It is coated over with a thin film of foil which flakes off. Originally it was made of a transparent glass matrix prepared by the folded method and the foil was cemented on the bead itself when the glass was plastic. Sp. gr. 2.313.

Bead No. 207:—This is a tablet bead of moulded glass in which the foil was pressed on a green base. The perforation was made when the glass was still hot and this leaves a depression at one end. This bead is very attractive. Sp. gr. 2.347.

Bead No. 208:—Is similarly coated with a thin film of foil which flakes off after disintegration. The bead was probably made by rotating it round a wire. It has the common shape of a cylindrical barrel with collars. Sp. gr. 2.308.

Bead No. 209:—This is a large annular bead prepared by the wire-wound method. It has now disintegrated considerably. Sp. gr. 2.317.

Bead No. 210:—A moulded bead, of variegated glass with an amount of foil. The hole was apparently made by thrusting a very sharp instrument in the mould as in the case of bead No. 207.

Bead No. 211:—It is a bead of the usual type both for the shape and the decoration. Different consistencies of green glass have been used for its manufacture and swirled into a mould. Only one specimen of this kind of glass occurs at Kondapur. Weight 0.470 grammes. Sp. gr. 3.903.

Bead No. 212:—This is another interesting bead from Kondapur. Only three beads of this type are noted. The method of manufacturing this bead seems to be as follows: At first a white tubular matrix of white opaque glass was turned round

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1. Similar beads also occur on the Śātavāhana site at Karad, *Exploration at Karad*, Plate XI-A, 5-6 and p. 25 and at Nasik in the layers attributable to the same period. The 1930 excavations at Kosam also have yielded several such beads in the 2nd century B.C. levels.

a wire and a thick coating of ruby red translucent glass was applied over this white matrix. The red glass appears to be coloured with copper but no analysis was made. Sp. gr. 2.981.

This kind of glass is called Venetian glass, red-coating over a white core being its speciality. Similar specimens of this kind of glass are reported from Ladakh (See *Ind. Ant.* XXXIV, p. 209). It is very difficult to date this specimen with any certainty. Beads[1] with identical technique are also found in Rhodesia (See *Bulletin of the Baroda Museum and Picture Gallery*, Vol. III, Part I, p. 55). In the Mapungubwe District in Northern Transaval similar beads are reported to have been found [Foucher, Mapungubwe, Plate D, 11 (*b*)]. Beck states that similar beads from Fayum in Egypt were datable to second century A.D. and that the same design was used for many of the modern trade beads. The date for the beads from Fayum agrees well with the Kondapur specimens but it is very difficult to say anything without proper analysis of the beads in question.

POTTERY BEADS (PLATES V-VI.).

One of the remarkable features of the Kondapur excavations is the enormous quantity of pottery beads found in it. These out-number any such collection from a single site in India. In all nearly 22,000 pottery beads were recorded. These form 7/9 of the total number of beads found throughout the excavations. In one particular area of the Kot-gudda Mound, which I believe was the back-yard of a potter's house, the Archæological department found the ground literally strewn with thousands of pottery beads. (Plate VII). These beads were probably kept ready for the market as several hundreds of them belonging to the same type were found together and therefore could not have been for the use of a single individual.

Fifty different types of beads and amulets were recognized but Bead Nos. 218, 231, 234, 238, 241, 245 were in a very large number and form the main bulk. Most of these are taken out of moulds and prepared from a well levigated clay which burns pinkish red in colour. The clay must really be very fine as would be indicated by the finger impressions of the potter left on many of them. Enormous quantity of heat must have been required to produce them. The moulds for preparing the beads are occasionally found and are made of a similar clay. The beads from these moulds are generally made into two parts—which are pressed against each other and then well fused. Accidental breakages in the beads clearly indicate this. A vast majority of the beads, however, are wheel made and hand-finished, by adding a few decorative parts wherever necessary.

Amulets of pottery is a distinctive feature of this collection. These can roughly be divided into three heads :—

(1) Those square in section and attached loops.

(2) Crescentic and round in section.

(3) Medallions in imitation of coins.

(4) Bull amulets.

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1. Identical specimens are known to me from the 1940-44 excavations at Ahichchhatra by the Archæological Survey of India among the specimens sent to me for a report. At Patna these occur at Bulandi-bagh (cf. Patna Museum No. Sbk. 35/670). Recently some beads of identical description were found while cleaning a tank in the caves at Kanheri, near Bombay, and in association with much Roman pottery. Information through the courtesy of the Superintendent, Archæological Survey of India, Western circle, Poona.

Nearly 60 amulets belonging to all these types have been recovered from the excavations, and are described at the end.

Bead No. 213:—is a pottery disc bead. This shape is very common for pottery beads at Kondapur and the same form is repeated in faience beads. Similar beads also occur frequently in the Indus Valley sites like Harappa and Mohenjo-Daro.

Bead No. 214:—This is a tablet bead prepared by joining two separately made parts. The central portion is slightly sunken due to the pressure of fingers. This depression makes the upper part of the bead very thin and in many beads the perforation is clearly to be seen by a slit caused by attrition. (*A. B. O. R. I.*, pl. XII, 8th row)

Bead No. 215:—This is a button bead. It has a central boss at the back through which a stick was inserted for making the hole. Not many beads of this type were found.

Bead No. 216:—This is a pendant impressed with a rosette of eleven petals. It is cast from a mould. The potter has tried to make two holes for suspension near the edges but failing these the present holes are bored at a little distance from the former. The mould was very carefully made and a good impression of the rosette in relief with a depressed eye in the centre was obtained. Only three such pendants were found.

Bead No. 217:—This is an ear-ornament decorated with pellets in front and it has a boss at the back which was meant for insertion in the ear-lobe. Only two such specimens exist in the Kondapur Museum.

Bead No. 218:—It is a milled cylinder disc bead prepared out of a mould. (*A. B. O. R. I.* XXII, Pl. XII, 6th and 7th row).

Bead No. 219:—It is a button bead similar to bead No. 214, but decorated with pellets which are also to be seen in the ear-ornament just described. The decoration appears on one side of the bead only.

Bead No. 220:—This is a Sri-vatsa symbol bead, elaborately carved and horizontally perforated. It is prepared by pressing two decorated pieces together with a small stick in between. The Sri-vatsa is a familiar symbol in Buddhist Art. Many inscriptions in the Buddhist caves of the Deccan begin and end with this symbol. It also appears on some Sātavāhana Coins (Rapson, *Catalogue of coins in the British Museum, Andhras and Western Kshatrapas*, Plate VIII, 207). As an ornamental device it adorns the Toranas at Sanchi (Bacchofer, *Early Indian Sculpture, I*, Plates 49-51, etc.). Seven beads decorated in this manner have been found at Kondapur. (*A. B. O. R. I.* XXII, Pl. XII, 10th row).

Bead No. 221:—This is a common lenticular collared bead commonly to be found among the beads of the Sātavāhana Period and many beads of this shape have been found at Kondapur. Collared beads of pottery identical in shape have also been found in the excavations at Besnagar. (*A.S.I., A. R.*, 1913-14, Plate LX, 68.).

Bead No. 222:—This is a small convex bi-cone bead with a raised border. It is taken out of a mould. Similarly shaped beads in chalcedony and shell also occurat Kondapur.

Bead No. 223:—This is a pyramidal bead with three raised tiers one raised above the other. There is a slight depression at the top near the centre of the bead. This is intended to be designed in the form of "Harmika of the Stupa" thereby symbolizing the Buddhist Trinity, the Buddha, the Dharma and the Samgha. Raied pyramid is a decorative motif often to be noticed in many of the Buddhist Caves in the Deccan. A mould for this "Harmika" bead has also been recovered from the Kondapur excavations.

Bead No. 224:—This is a pottery bead prepared in imitation of some leaves and apparently serves the purpose of a spacer in between two beads. The hole near the top shows that it was used as pendant. Several specimens of this leaf-bead were found at Kondapur. (*A.B.O.R.I.*, XXII, PL. XII, 12th row).

Bead No. 225:—This is another leaf-bead prepared in imitation of the sacred pipal-leaf. Imitations in chalcedony have also been recovered from the excavations alluded to above. These beads in pottery are found in great abundance at Kondapur and another variation of the same bead (not illustrated) has carved over them the viens and the stem of the leaf in imitation of the actual leaf. All these beads are moulded. (*A. B. O. R. I*, XXII, Pl. XII, 9th row).

Bead No. 226:—This bead is a toggle (?) shaped in imitation of rice grain with husk over it. These beads also have been recovered in a large number.

Bead No. 227:—This is a drop pendant irregular in shape and considerably thick.

Bead No. 228:—This is an ornamental Bullae shaped like a kidney bean. It is decorated with a ring of dots near the margin and a pipal leaf in relief in the centre. Two pellets appear on either side. The loop at the top is ribbed. It is taken out from a mould and the loop attached to it with the applique technique. Kidney shaped inlays in shell were very common at Kondapur. (*A. B. O. R. I.*, XXII. Pl. XII, 9th row. Centre).

Bead No. 229:—This is a vase pendant with a loop at the top. An exactly similar pendant was found in Kolhapur excavations associated with the layers of the Sātavāhana Period.

Bead No. 230:—It is a cylindrical collared bead popular for the Andhra Period. Several specimens of this type have been recovered. This bead is wheel made and is taken from a row of segminted beads by separating it from others with a very sharp instrument.

Bead No. 231 :—Another bead made by cementing two separately made parts and joined together. Due to the flaking of the clay in between the joints, the two parts can be distinctly seen. The bead is not very well fired.

Bead No. 232 :—Wheel-made bead of the common globular shape. Very common shape for pottery beads at Kondapur. (*A.B.O.R.I.*, XXII, Plate XII, rows 3-4).

Bead No. 233 :—This is an irregular bi-cone bead turned on a wheel. The cones are not of the same height. Well finished.

Bead No. 234 :—Gadrooned bead with collars finished on wheel.

Bead No. 235 :—Large gadrooned bead with lug-collars at ends. The central portion of this bead is very much bulged out and the lug-collars are comparatively short. This bead occurs in several sizes and from the large number found seems to have commanded a good popularity. Several beads of this type were found in the backyard of a potter's house of the Sátaváhana Period, in the Kotagudda Mound.

Bead No. 236 :—This is an Āmalaka bead with eight gadroons. Perfected on the wheel by pinching the gadroons to a requisite shape. Several beads of this type have been found in the excavations. The number of gadroons varies from six to eight in different cases.

Bead No. 237 :—Another bead of a similar type carefully finished on the wheel. (*A.B.O.R.I.*, XXII, Plate XII, 17th row).

Bead No. 238 :—This bead is shaped like areca-nut and nearly 800 beads of this type have been found in the Kondapur excavations. Three different types are obtained in this variety and they differ from one another in their height, and the conical top. Some have a groove near the butt-end but all of them have a depressed centre at one end. (*Ibid.*, Plate XII, 1-2nd rows).

This shape has a very ancient heritage. Beads of this type have been found at Mohenjo-Daro, Harappa and many other Indus Valley sites datable to 2300 B.C. At Harappa these beads came from unstratified layers and have therefore been assigned to the Gupta Period. (Beck, " Beads from Harappa " in Vats, *Excavations at Harappa*, I, p. 408). The continuity of the shape, however, can further be traced to the second century A.D. as many such beads are found in the Bhir Mound site in Taxila. In fact it is by far the most common shape for terra-cotta beads on many sites in the N.W. Frontier Province. In the South,[1] Beck had seen two strings of areca-nut shaped beads from the mounds in the neighbourhood of some megalithic tombs in the Hyderabad State (see *Man.* 1930). At Arikamedu, near Pondecherry, different types of areca-nut beads were found in association with the layers of the Pre-Arratine, Pre-Structural Period and in the Early Phase. (*Ancient India*, No. 2, Fig. 41, Nos. 42-44). Similarly at Kolhāpur nearly 70% of the total number of terracotta beads found had this shape and these occurred in all the layers form Pre-Sātavāhana to the Post-Bahamani Periods (200 B.C. to 1600 A.D.).

Beck describes these as " Pear shaped " beads but considering the small size and the original native provenance of the areca-nut, of which these are copies, they should rightly be called areca-nut beads.

Bead No. 239 :—This is a long cylinder bead turned on the wheel. Spiral groovngs at the edges indicate that this was pared off with a thread while on the wheel.

Bead No. 240 :—A similarly made bead considerably thinner in size.

Bead No. 241 :—This is a conch-shell shaped bead of pottery. It is copied from a *Pyrene Flava* Shell. Nearly 50 beads of this shape occur at Kondapur.[2] They

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1. Areca-nut shaped beads have now been recognized on almost all the ancient sites in India. Cf. *Ancient India*, No.4, p.265 and Plate CXX

2. Conch-Shell shaped beads are a characteristic feature on other sites in India as well. Kosam has this shape for beads made of terra-cotta, carnelian and shell; and there is a fine green glass bead of this shape also from Kosam preserved in the Patna Museum (No. 7179); identical specimens in terra-cotta from Bairant are preserved in the Bharat Kala Bhavan at Benares. At Maski, black glass beads, triangular in section and very elaborately prepared from wound glass, occur in a very large number.

are probably made on the wheel from bi-conical concave beads. The spirals at one end of the bead are finished with a sharp instrument and the other end is given the requisite shape by pinching the wet clay.

Another type of conch shell bead which occurs at Kondapur is a fat stumpy bi-conical bead in imitation of another shell. But this bead is not so graceful as the slender form just described.

Bead No. 242:—It is a cube-shaped bead with a hole in the centre. The edges are very sharp and well finished. Only one bead of this description was found in the excavations.

Bead No. 243:—This is a short cylindrical barrel with a notch in the central portion. This is made by pressing the clay in the central portion of the bead with the fingers while the bead was on the wheel. A similar bead of green glass (No. 2555) identical in shape was found in the excavations at Kolhapur and occurred in the layers associated with Bahamani coins (1500 A. D.).

Bead No. 244:—This is a cylindrical bead finished on the wheel. Two or three horizontal ridges on this bead indicate that it was intended to be converted into a faceted bead but the facets for some reason or the other were never completed.

Bead No. 245:—This is a peculiar bead prepared from a bi-conical base. The clay is pinched from both the sides in such a way as to leave a zigzag on the central ridge [1] and depressed pentagons all round. Numerous varieties of these beads were made at Kondapur. (*A. B. O. R. I.*, XXII, Pl. XII, 5th row).

Bead No. 246:—This bead is similar to No. 245 described above. The clay is moulded in such a way as to leave six pentagons on the bi-conical sides of the bead. The pentagonal ends are further treated in such a way as to have sharp thorn-like cuticles or knobs at the ends. This has therefore the appearance of some thorned wild fruit with geometrical patterns in between the thorns. (*Ibid.* Pl. XII, 5th row).

Bead No. 247:—This is a segmented bead. The beads in segments are not regular in their shape. Wheel-made.

Bead No. 248:—Cylindrical pottery amulet. This has two small holes near the edges which probably served the purpose of holding the capped ends of the metal covering the bead as also the loops from which the amulet was to be suspended.

Bead No. 249:—This is a raised spot bead arranged with a series of pentagons covering the whole surface of the bead. All the ends of these pentagons are raised and leave a triangular surface near the perforation. This bead is only a varient of Bead No. 246 and a modification of Bead No. 245. (*A.B.O.R.I.*, XXII, Pl. XII, 5th row).

Bead No. 250:—This is a pottery-amulet cylindrical in shape with two raised collars at each end. The perforation is vertical as if for a toggle. This is only another variety of the simple amulet (No. 248).

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1. Exactly identical terra-cotta beads are known to me from the 1950-51 excavations at Kosam attributable to 1-2nd century A.D.

Bead No. 251 :—It is a broken fragment of some pottery object, which strictly speaking may not be called a bead or an amulet. It consists of two parts made out of well levingated clay which burns dark black in colour. Near the lower end is carved a composite animal like *Makara* with its mouth wide open. The upper register is designed in the shape of a pillar-like strut. The design appears on both the sides. This object cannot be identified with certainty but was perhaps intend to be the lower portion of a handle of some clay object. It is included here because of the perforation which might have served the purpose of passing a string through it.

Bead No. 252 :—It is a small crescent shaped amulet or a part of an ear-ring. The upper portion of this ring is missing.[1] This ring has several thread marks or ladders incised in the mould from which it was cast. The amulet is made by cementing two separately made pieces joined together.

Bead No. 253 :—This is a bead with four pentagons arranged on the sides of a convex bi-cone leaving a zigzag band on the central ridge. The ends of this ridge are raised. The pentagons intervening have depressed centres. This bead is only another varient of Bead No. 245. Beads of this design have frequently been found in the Kondapur excavations. (*Ibid.*, Pl. XII, 5th row).

Bead No. 254 :—Pottery amulet, square in section and raised collars at ends. The loops attached to this maulet are broken.

Bead No. 255 :—This is a very beautiful pottery amulet prepared by joining two separately made parts. The central design on this amulet, consists of a lotus with seven dots in the middle and smaller circlets of thirteen dots on the inner sides of the lotus. The whole design is enclosed in a rectangular space lined with a dotted border. This is very carefully finished. (*A.B.O.R.I.*, XXII, Pl. XIII C).

Bead No. 256 :—This is a spacer pendant of pottery with looped lines in the upper register. An ovoid with collar at the lower edge is seen. The lower register has a space with prominent raised dots. An exactly similar bead sp[2]acer was found in the Kolhapur excavations (No. 4047), in the lowermost levels.

Bead No. 257 :—This is a cylindrical bead with collars at the ends which are so commonly noticed in the beads of the Satavahana Period.

AMULETS :

No. 258 :—This is a long square cylinder amulet with hooks at the upper end. The collars on the sides are slightly raised and show a band at the terminals. The inner band has a milled design in relief and the third innermost collar has cord or rope-like incisions.

No. 259 :—This is a short cylindrical amulet with three simple collars at each end. The loops at the top, one of which is broken, are comparatively big in size.

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1. Identical crescent shaped pendants are also represented in the surface collections made at Nasik. These are also known from Kosam and Ahichchhatra. These objects described as ear-ornaments occur very frequently at Siaupalgarh in layers of Period IIB and III, assigned to 100-200 A.D. and 200-300 A.D. respectively. Cf. *Ancient India* No. 5, pp. 89-91 and Plate XLVII, 13-18.

2. Exactly identical specimens have been found in the Satavahana levels at Karad ; and in layers attributed to about 2nd century A.D. in the recent Excavations at Tripuri (1952).

No. 260 :—This is a broken pottery amulet rectangular in section. It has plain collars at one end. The central portion is decorated with two concentric circles with a boss in the middle. Two half-rosettes apjear on either side of the panel.

No. 261 :—This is a very well made pottery amulet made by piercing two separately made parts joined together. The amulet is crescent shaped with its upper edges nearly meeting at the top. There are a series of raised platforms on the top either of which a rosette with a central knob surrounded by dots appear on side. The whole area is included in a crescent shaped platform surrounded by dots near the margin. The design is repeated on both the sides of the amulet.

It is commonly supposed that these were put into use by piercing the ends in the lobe. But the amulet is too heavy and could not therefore be worn without discomfort. At one of the edges of another specimen from Kondapur two small holes appear to be bored near the top. This apparently shows that this amulet was worn round the neck. Nearly 12 such amulets have been found at Kondapur.

The Kolhapur excavations have yielded similar specimens (No. 2294). Pendants of the same shape with loops for suspension at either ends have been found, together with their moulds, in the Bhir Mound at Taxila. (*Ancient India*, No. 1, Plate VI. C). The same pattern is also repeated in gold in the 1945 hoard of gold ornaments (*Ibid.*, Pl. IX.).

No. 262 :—This is another amulet like No. 261 but with a different decoration on it.

No. 263 :—This is a cylindrical amulet with a number of bands over it. There is one perforation and the bevelled edges at the sides are meant for putting metal caps over them. To these caps the hooks must have been fitted. Only a few specimens have been found at Kondapur but the Kolhapur excavations have yielded several such. No. 1044 is an exact replica of the present sepcimen and another (No. 2900) has a horizontal perforation.

Bull Amulets :

Nos. 264-272 :—These are different types of bull amulets found in the excavations. All of them have been moulded and prepared by joining two separately made parts. They all represent different types of bulls with humps. Nearly all of them have garlands round their necks and are in a seated posture. A kind of a decorated pedestal for each of them is provided. The perforation always runs through this pedestal. Due to the weight of the body the animal would always be placed upside down when the amulet was hung round the neck. Different decorative designs are used for each of the specimen and only one amulet shows the bull facing. As this is only partially preserved one is not able to know how the backside of this specimen was worked. Besides the Bead No. 251 described above these amulets are the only specimens representing an animal in the beads from Kondapur.

Coin Amulets :

Twelve amulets imitating Roman coins have been found. These are rough copies of coins of the Emperor Tiberious (died A.D. 37) and are made from moulds. They have hooks at the top for hanging round the neck. [*A.B.O.R.I.*, XXII, Pl. XIII (b) and *R.E.M.* Wheeler, " Roman contact with India " in *Aspects of Archæology*, pp. 345 ff., Plate XXJ.

These specimens are enough to show how the Roman coins were valued in these days. In the excavations at Kolhapur one coin amulet similar to this was obtained in the Śātavāhana layers at a depth of about 21 feet. BS. (No. 1386).

Nos. 279-280 are two representations of medallions with the Gaja-Lakshmi motif on them and are similar to the coin amulets described above. No. 279 is only fragmentary. It has on its top two Makaras in place of the usual loops.

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1. For a survey of Clay medallions similar to above, see *Ancient India*, No. 5, pp. 101-103 and Fig. 12; and R.E.M. Wheeler, op. cit, pp. 345-381.

PLATE I.

Carnelian beads.

1. Etched Carnelian Bead. I.C. 2. b., XLVIII. A. 11. (Etched Type I).
2. Etched Barrel Bead of Carnelian I.D. 1. b. XLVIII. A. 11 (Etched Type I).
3. Sphere with etched dodecahedroan of carnelian XIX. A. 3., XLVIII. A. 11. („)
5. Cylinder Bead of Carnelian I.B. 2. b.
6. Long Cylinder Bend of Cqarne.lian. I.D. 2.b.
8. Lenticular Spherical Bead of Carnelian with, collars, IV. C. 1.a., XVI. C.1.a.
9. Lenticular Bead 9 of Carnelian, with Collars. XVI.B.1.b.
10. Long Truncated bi-cone Bead of Carnelian I.D.2.f.
12. Elliptical Barrel Bead of Carnelian, II.D.2.f.
13. Barrel Bead of Carnelian. I.D. 1.b.
14. Flattened Hexagon Barrel of Carnelian. XIII.D.1.b.
15. Square Barrel Bead of Carnelian. IX.D.1.b.
16. Lenticular Spherical Bead of Carnelian, IV.C.1,a., XVI.C.1.a.
17. TRI-RATNA of Carnelian. XXIX.A.23.

Agate beads.

18. Triangular Barrel Bead of Agate. VIII. D.1.b.
19. Drop Pendant of Banded Agate. XXII.B.2.
20. Truncated bi-cone Bead of Banded Agate. I.D.2.f.

Crystal beads.

21. Rough Rectangular Cylinder of Crystal. X. D.2 b.
22. Hexagonal Barrel of Crystal. XIII.D.1.b.
25. Square Barrel of Crystal. IX.D.1.b.
26. Lenticular Bead of Crystal, with collars. XVI.B.1.b.
27. Hexagonal Truncated bi-cone Bead of Crystal. XIII. D.2.f.
28. Lenticular Truncated Cone Bead of Crystal, IV.D.2.b.
29. Flattened Hexagonal Cylinder of Crystal. XIII.D.2.b.
31. Regular Hexagonal Cylinder of Crystal, XIII.D.2.b.
33. Spherical Crystal. I.C.1.a.
36. Pentagonal Barrel of Crystal, XII.B.1.b.
37. Rough Rectangular Cylinder of Crystal. X.D.2.b.
38. Table Bead of Crystal. XVI.C.1.a., IV.C.1.a.
39. Flattened Pentagonal Barrel of Crystal. XII.D.1.b.
43. Truncated Hexagonal bi-cone of Crystal, un-operforated. XIII.C.2.f.

Amethyst beads.

44. Spherical Bead of Amethyst I.C.1.a.
45. Long Conves bi-cone bead of Amethyst. I.D.1.e.
46. Short Rectangular Barrel Bead of Amethyst. X.B.1.b.
47. Lenticular Barrel Bead of Amethyst, with Collars. IV.C.1.b.
48. Cylindrical Barrel Bead of Amethyst, with Collars. I.C.1.b.
51. Flattended Hexagonal Barrel of Amethyst, un-perforated. XIII.D.1.b.
53. Pentagonal Barrel of Amethyst, un-perforated. XII.D.2.b.

PLATE II.

Garnet Beads.

54. Truncated bi-cone Disc Bead of Garnet. I.A2.f.
55. Cylindrical Barrel Bead of Garnet. I.C 2.b.
56. Hexagonal Tablet of Garnet. XIII. A.2.b., XVI. C.1.c.
57. Pentagonal Convex bi-cone Disc of Garnet. XII. A.1.c.

A Jade Bead.

58. Lenticular Bead of Jade, with Collars. XVI. B.1.b.

Quartz Beads.

59. Pentagonal Barrel of Quartz. XII. B.1.b.
60. Cylindrical Barrel of Glazed Quartz, with collars. I.C.1.a.
61. Irregular Sundry Bead, with hatching. XLVIII. A.11., XXXII. A.18.
62. Pentagonal Barrel of Yellow Quartz. XII.B.1.b.
63. Lenticular Bead of Yellow Quartz, with Collars. XVI.B.1.b.

Onyx Beads.

64. Short Cylinder Bead of Onyx. I.B.1.b.
65. Cylinder Barrel of Onyx. I.D.1.b.
66. Cylinder Barrel of Onyx. I.D.1.b.

Lapis Lazuli Beads.

67. SWASTIKA Bead of Lapis Lazuli. XXIX.A.
68. Dagger-shaped Pendant of Lapis Lazuli. XXVIII.B.4.
69. Vase-shaped Bead of Lapis Lazuli. XXIX.A.15.
70. Cylindrical Barrel Bead of Lapis Lazuli, with Collars. I.C.1.a.
71. Lenticular Bead of Lapis Lazuli, with Collars. XVI.B.1.b.
72. Spherical Bead of Lapis Lazuli. I.C.1.a.
74. Rough Square Cylinder Bead of Lapis Lazuli. IX.B.2.b.
75. Short Cylinder Bead of Lapis Lazuli. I.B.1.b.
80. Wedge shaped Barrel of Lapis Lazuli. II.B.1.b.
83. Square Cylinder of Lapis Lazuli. IX.D.2.b.
85. Elliptical Lapis Lazuli Bead of irregular shape. II.D.2.b.
86. Truncated Convex bi-cone of Lapis Lazuli. IX.D.1.d.
88. Spherical Half Bead of Lapis Lazuli. I.B.1.c.

Jasper Beads.

89. Cornerless Cube of Red Jasper. XIX.A.1.
90. Spherical Bead of Red Jasper. I.C.1.a.
91. Spherical Bead of Red Jasper. I.C.1.a.
92. Truncated Convex bi-cone Bead of Red Jasper, I.D.1.f.
93. Tablet Bead of Green Jasper. IV.C.1.a., XVI.C.1.a.
95. Spherical Bead of Green Jasper I.C.1.a.
97. Large Spherical Ball of Green Jasper, perforated. I.C.1.a.

A Beryl Bead.

99. Rough Pentagonal Barrel Bead of Beryl. XII.D.1.b.

Chalcedony Beads.

100. Dagger-shaped Pendant of chalcedony. XXVIII.B.4.
101. Buddhist Altar Bead of chalcedony. XXIX.A. 24.
102. Pipal-Leaf Bead of chalcedony. XXVI.A.
103. Bi-cone hexagonal bead of chalcedony, with rounded flats. XIII. D. 2. f.
104. Bi-cone pentagonal bead of chalcedony, with rounded flats. XII. D. 2. f.
105. Irregular rectangular cylinder bead of chalcedony. X. D. 2.
106. Gadrooned barrel disc bead of chalcedony. XXIII. B. 1. b.
107. Short cylinder circular bead of chalcedony. I.B. 1. b.

PLATE III.

112. Gadrooned Bead of Chalcedony, with Collars. XXIII.A. 3d.

Shell beads.

113. Cylindrical Disc of Shell. I.B.1.b.
115. Short Cylinder of Shell. I.B.1.b.
116. Cylinder Disc of Shell. I.B.2.b.
117. Wedge Shaped Conical Bead of Shell. VIII.B.2.b.
119. Tablet Bead of Shell. XVI.C.1.a., I.B.2.d.
120. Spiral Spacer of Shell Columnella. XVIII.A.1.a.
121. Lenticular Barrel of Shell. IV.D.1.b.
122. Collared Lenticular Barrel of Sedimentary Shell, XVI. D.1.g.
123. Cylindrical Barrel of Shell, with Collars. I.D.1.b.
124. Boat Shaped Bead of Shell. XLVIII.A.5.
125. Lozenge of Shell. I.D.1.e.
126. Half Bead of Shell. I.B.1.c.
127. Cylinder Bead of Shell, with Collars. I.D.1.b.

A Coral bead.

128. Oblate Bead of Coral. I.B.1.c.

Bone beads.

129. Long Cylinder of Bone. I.D.1.b.
130. Cylinder Bead of Bone, with collars I.C.1.a.
131. Irregular Cylindrical Short Bead of Bone. I.C.1.a.

Faience beads.

132. Dagger-shaped pendant of Green Faience. XXVIII.B.4.
133. Concave bi-cone Disc of Faience. IV.A.3.e., XI.A.2.b.
134. Truncated bi-cone Bead of Faience. I.D.2.f.
135. Cylindrical Barrel of Faience, with Collars. I.D.4.fb.
137. Collared Gadrooned Bead of Faience. XXIII.A.3.d.
139. Lenticular Collared Bead of Green Faience. XVI.B.1.b.
140. Cylindrical Collared Bead of Green Faience. I.C.1.b.
141. Cylindrical Collared Bead of White Faience. I.C.1.b.
142. Lenticular Collared Bead of Faience. XVI.B.1.b.
143. Small Disc Bead of Green Faience. I.A.1.b.
144. Large Disc Bead of White Faience. I.A.1.b.

145. Medium Disc Bead of White Faience. I.A.1.b.
146. Tablet Bead of Glazed (?) Faience. XVI.C.1.a.
147. Flattened Hexagonal Tablet of Green Faience. XIII.A.2.b., XVI.D.1.f.
149. Diamond shaped Tablet Bead of White Faience. XI.A.2.b., XVI.A.2.e.
150. Annular Bead of Green Faience. XX.A.1.a.
151. Gadrooned Bead of Green Faience. XXIII.A.3.d.
152. Gadrooned Bead of Green Faience. XXIII.A.3.d.
155. Collared Gadrooned Bead of Green Faience. XXIII.A.3.d.

PLATE IV.

Glass Beads.

156. Spherical Cane Bead of Pale Blue Glass. I.C.1.b.
157. Wound Bead of Copper Glass. I.C.1.a.
158. Irregular Spherical Bead of Wound Cobalt Glass. I.C.1.a.
159. Spiral Wire-wound Bead of Pale Sky Blue Glass. I.C.1.a., XVIII.A.1.a.
160. Spherical Moulded Bead of Cobalt Glass. I.C.1.a.
161. Long Cylinder of Cobalt Glass. I.D.2.b.
163. Cane Bead of Pale Sky Blue Glass, mixed with foil. I.C.1.a.
164. Spherical Bead of Pale Sky Blue Glass. I.C.1.a.
165. Collared Cylindrical Barrel of Dark Blue Glass. I.D.1.b.
166. Lenticular Collard Bead of Moulded Cobalt Blue Glass. IV.D.1.b.
170. Collared Cylindrical Barrel Bead of Folded Glass. I.D.1.b.
172. Collared Cylindrical Bead of Folded Cobalt Blue Glass. I.D.1.b.
174. Moulded Lenticular Collared Bead of Cobalt Glass. IV.D.1.b.
175. Bi-cone Bead of Cobalt Glass. I.C.2.e.
176. Cylindrical Collared Bead of Amber coloured Glass. I.D.1.b.
177. Tablet Bead of Amber coloured transparent Glass. XVI.C.1.a.
178. Lenticular Collared Bead of moulded Amber coloured Glass. IV.D.1.b.
179. Cylindrical Collared Barrel of Amber coloured Glass. I.D.1.b.
180. Lenticular Collared Bead of Amber coloured Glass. IV.D.1.b.
181. Green opaque Lenticular Bead of cane Glass. IV.D.1.b.
182. Deep Green Collared Bead of Moulded Glass. IV.D.1.b.
183. Lenticular Collared Bead of Transparent Green Glass. IV.D.1.b.
184. Cylindrical Barrel of Cobalt Glass. IX.D.2.b.
185. Cylindrical Bead of Transparent Blue Glass. I.C.2.b.
186. Hexagonal bi-cone of Transparent Blue Glass. XIII.C.2.e.
187. Hexagonal Truncated bi-cone of Transparent Glass. XIII.C.2.f.
188. Lenticular Collared Bead of Moulded Transparent Glass. IV.D.1.b.
189. Oblate Bead of Pale Blue Moulded Glass. I.B.2.b.
190. Bi-cone bead of Bluish Glass. I.B.2.f.
193. Spherical Bead of Deep Green Glass. I.C.1.a.
194. Pear shaped Tablet Bead of Cobalt Glass. XVI.C.1.g., IV.C.1.g.
195. Long Cylinder of Opaque Black Glass. I.D.2.b.
196. Melon Bead of Transparent Blue Glass. XXIII.A.3a.
197. Segmented Gadrooned Cylinder Tube of Blue Glass. XXIII.A.3.b.
199. Segmented Double Bead of Transparent Blue Glass. XVII.A.1.a., XXIII.A.1.
200. Segmented Double Bead of Transparent Blue Cane Glass. XVII.A.1.a.
201. Long Cylinder circular bead of cane Glass. I.D. 2. b.

202. Long Cylinder circular bead of cane Glass. I.D. 2. b.
203. Long Barrel lenticular bead of Millifiori glass. XVI. D. 1. b.
204. Long Barrel circular bead of Millifiori Glass. I.D. 1. b.
205. Long Cylinder circular bead of Glass with gadrooned collars. XXIII. A.a.
206. Short barrel rayed bead of glass with gold-foil. XIII. A.1.c.
207. Tablet bead of glass with gold-foil. XVI. C.1.a.
208. Long Cylinder circular bead with collars. I.D.1.b.
209. Short disc or annular bead of Glass. XVI. A.1.a.
210. Long Barrel lenticular bead of Glass with lug collars. IV. D.1.b.
211. Irregular circular bead of Glass. I.D.1.b.
212. Long Cylinder circular bead of Millifiori glass. I.D.2.b.

PLATE V.

Pottery Beads and Amulets.

213. Disc Bead of Pottery. I.A.2.b.
214. Tablet Bead of Pottery. XVI.C.1.a.
215. Button Bead of Pottery. XLVI.A.4.
216. Rosette Pendant of Pottery. XXVI.B.6.a.
217. Ear Stud of Pottery.
218. Milled Disc Bead of Pottery. XXIII.A.1.a.
219. Decorated Button Bead. XVI.C.1.a.
220. SRI-VATSA or Buddhist Shield Bead. XXIX.
221. Lenticular Collared Bead of Pottery. XVI.B.1.b.
222. Lenticular bi-cone Bead of Pottery. XVI.A.3.e., IV.A.1.e.
223. Buddhist Harmika or stepped pyramid Bead. XXIX.
224. Imitation Leaf Pendant. XXVI. A.
225. Pipal Leaf Pendant of Pottery. XXVI.A., XXIX.
226. Rice Grain Bead of Pottery. XXVI.
227. Drop Pendant of Pottery. XXII.B.2.
228. Ornamental Bullae of Pottery. XXI.B.2.
229. Drop or Vase Pendant. XXIX.A.15., XXII.2.b.
230. Cylindrical Bead of Pottery with Collars. I.D.1.b.
231. Collared Cylindrical Bead of Pottery, I.D.1.b.
232. Globular Bead of Pottery. I.C.1.a.
233. Irregular bi-cone Bead of Pottery. I.C.1.c.
234. Fluted Bead with Collars. XXIII.A.2.b.
235. Gadrooned Bead with Lug-Collars. XXIII.A.3.d.
236. Gadrooned Bead of Pottery. XIII.A.3.e., XXVI.A.
237. Rayed ĀMALAKA Bead. XXIII.A.1.c.
238. Areca-Nut Shaped Bead of Pottery. XXVI.A., I.C.1.g.
239. Long Cylinder of Pottery. I.D.2.b.
241. Imitation Shell Bead of Pottery. XXVII.A.2.
242. Cube Bead of Pottery. IX.C.2.b.
243. Notched Cylinder Bead. I.C.2.b.
244. Irregular Faceted Cylinder of Pottery. I.C.2.b.
245. Double Pentagonal Bead of Pottery. XIX.A.5.a.
246. Double Hexagonal Faceted Bead. XVII.A.1.a.
248. Cylindrical Pottery Amulet. I.C.2.b.

249. Faceted Bead of Pottery. XIX.A.8.b.
250. Cylindrical Amulet of Pottery with Collars. I.C.2.b.
251. Gorgyole Shaped Pottery Amulet.
252. Crescent Shaped Pottery Amulet.
253. Double Octagonal Faceted Bead. XIX.A.8.a.
254. Square Cylinder Amulet. of Pottery with Collars. IX.C.2.b.
255. Hooked Square Cylinder of Pottery. IX.C.2.b.
256. Double Spacing Pendant with decoration. XXII.
257. Long Cylinder Bead with Collars. I.D.2.b.

PLATE VI.

Pottery Amulets.

258. Square Cylindrical Amulet with hooks.
259. Square Cylindrical Amulet with Raised Collars and hooks.
260. Decorated Square Cylindrical Amulet.
261. Crescent shaped Pottery Amulet.
263. Segmented Pottery Bead with caps at ends.
264-273. Bull Shaped Pottery Amulets.
275-276. Clay Bullae in Imitation of Coins.
279-80. Gajalakshmi Amulets.

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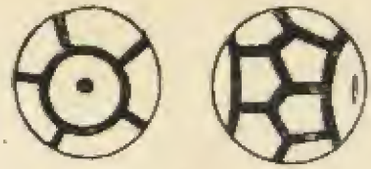

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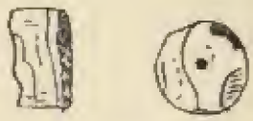

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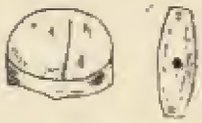

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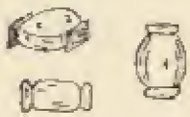

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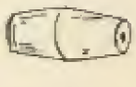

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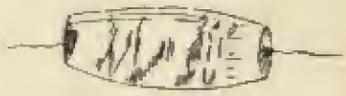

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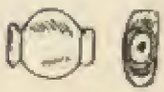

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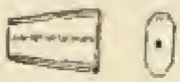

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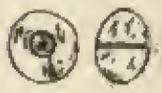

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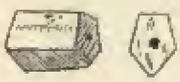

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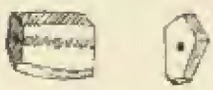

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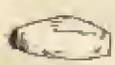

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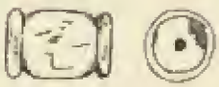

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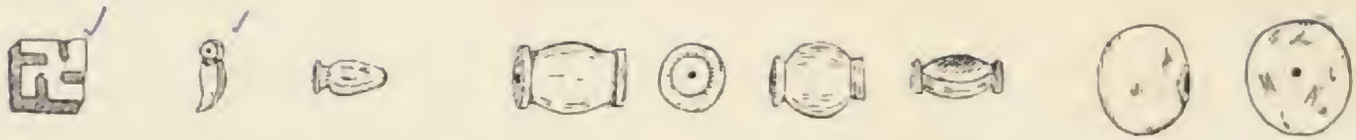

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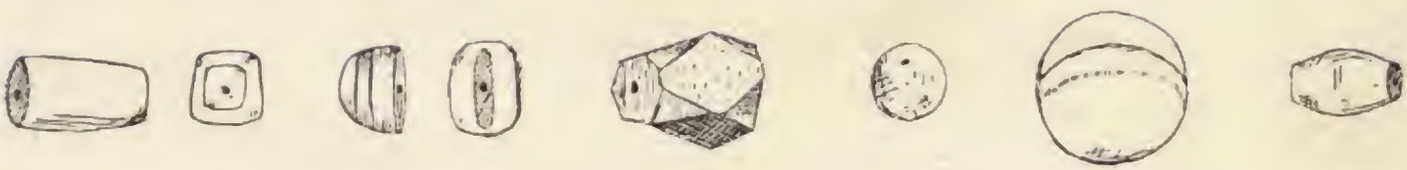

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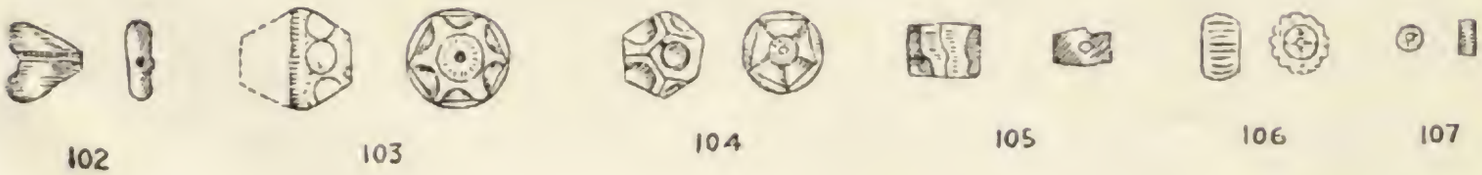

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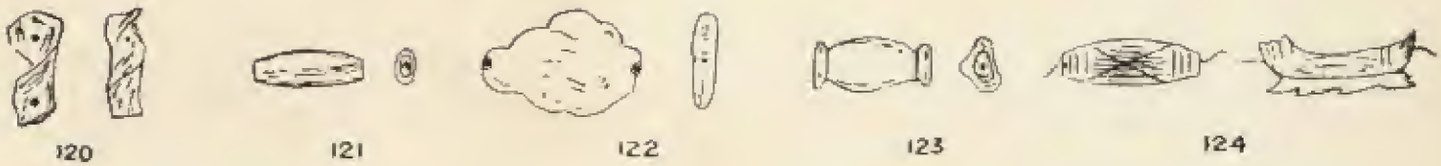
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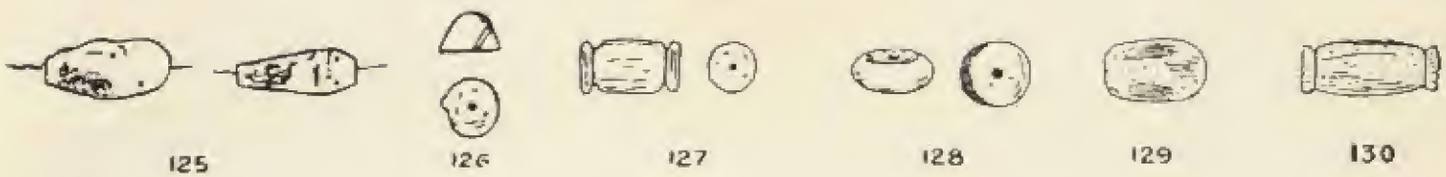
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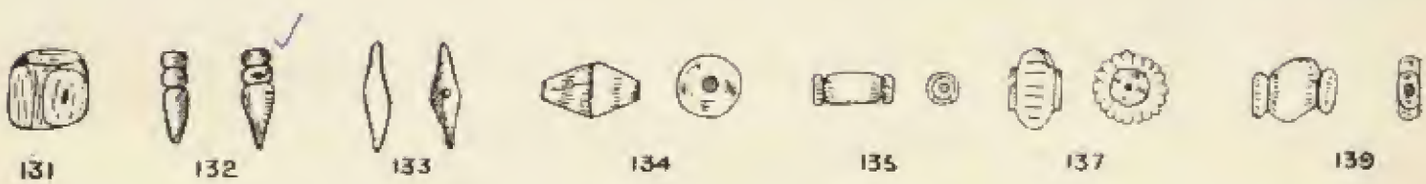
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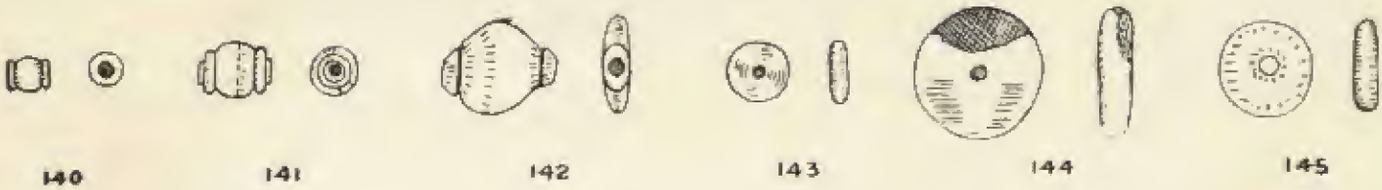
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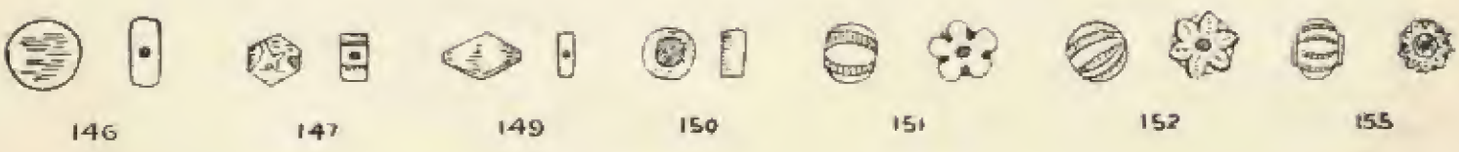
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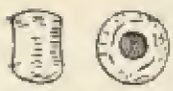
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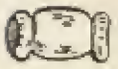
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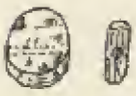
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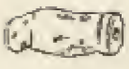
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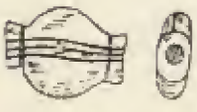
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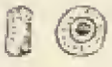
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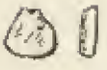
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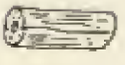
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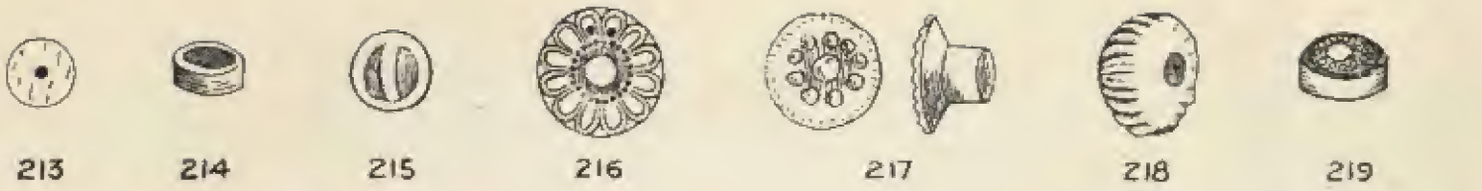

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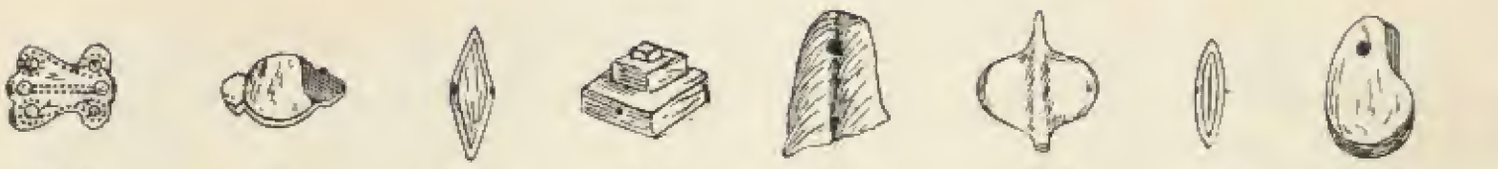

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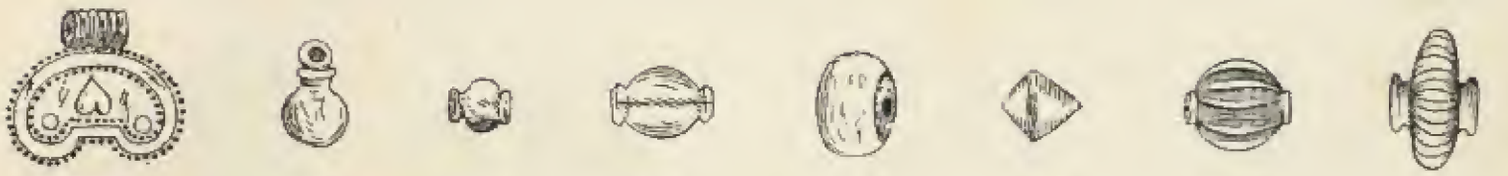

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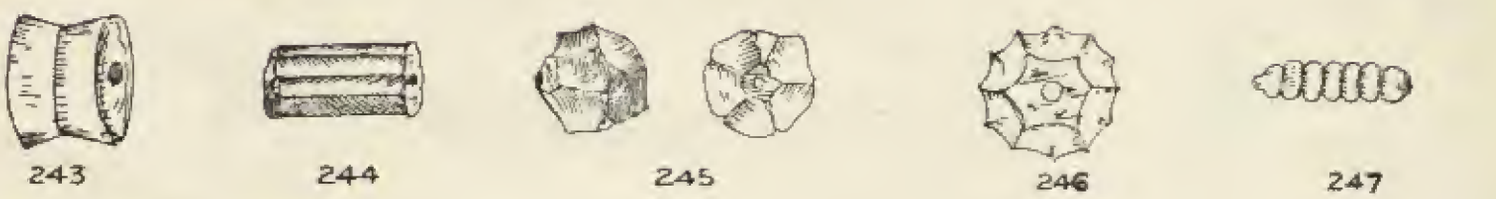

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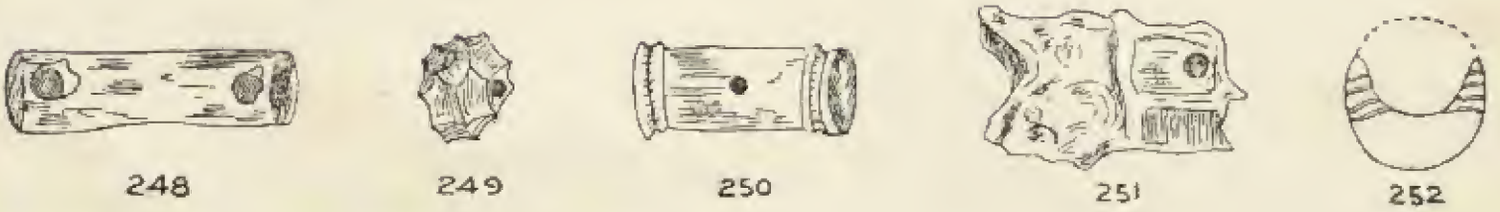

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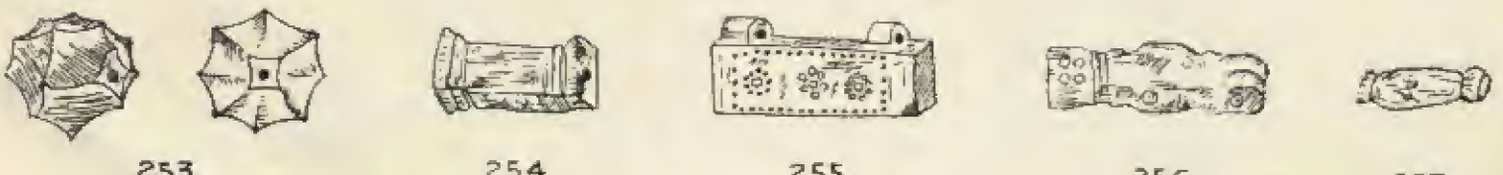

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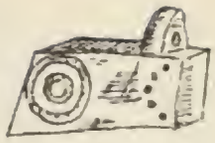

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EXCAVATIONS AT KONDAPUR
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REFERENCES
SITE. GII
SITE. NE.
SITE. A.
SITE. B.
SITE. H.
SITE. D.
SITE. C.
T A N K
DIRECTOR OF ARCHAEOLOGY

(*a*) BEAD LAYER AT KONDAPUR.

(*b*) COIN AMULETS FROM KONDAPUR.